

SERVICE MANUAL



HD65/GT-7000/HD700X

Date	Revise Version	Description
2007.10.24	V1.0	Initial Issue
2008.02.15	V2.0	Add Appendix A
2008.09.24	V3.0	Add GT-7000/HD700X

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Preface

This manual is applied to HD65/GT-7000/HD700X projection system. The manual gives you a brief description of basic technical information to help in service and maintain the product.

Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Please send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

Notice:

The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in future edition.

HD65/GT-7000/HD700X Service Manual

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Manual Version 3.0

Comparison List

Part	HD65	HD700X	GT-7000
BOTTOM CASE	51.88N07G011	51.88N07G013	
LAMP COVER	70.89F28GR01	70.89F32GR01	
ELEVATOR STEP	51.88N24G011	51.88N24G001	
ELEVATOR FOOT	51.88N22G011	51.88N22G001	
LINKER ELEVATOR BUTTON	51.88N21G011	51.88N21G001	
FIX FOOT RUBBER	52.88N06G011	52.88N06G001	
ADJUSTABLE FOOT RUBBER	52.88N07G011	52.88N07G001	
I/O COVER LABEL	35.89F01G001	35.89F01G011	
ZOOM RING	51.88N05G011	51.88N05G001	
IO COVER	51.89F01G001	51.89F01G011	
MAIN BOARD	70.89F30GR01		70.89F33GR01
TOP CASE	51.88N06G061	51.88N06G0A1	51.88N06G0D1
FOCUS RING COVER	51.88N10G011	51.88N10G001	
ZOOM RING COVER	51.88N12G011	51.88N12G001	
KEYPAD	51.88N16G011	51.88N16G001	
4 WAY KEY	51.88N17G011	51.88N17G001	
ENTER KEY	51.88N18G011	51.88N18G001	
LED LENS KEYPAD	51.88N19G011	51.88N19G001	
CARTON AB THEMESCENE LOGO	55.89F02G001	55.89F01G001	
LENS CAP	75.89F02G001	75.88N04G001	
CABLE POWER CORD	42.50112G001		42.53506G001
QUICK START CARD MULTILINGUAL	36.89F03G001		36.89F03G012
INFRARED REMOTE CONTROLLER	45.89F01G001	45.89F01G002	
USER'S GUIDE MULTILINGUAL	36.89F04G001		36.89F04G031

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Introduction

1-1 Highlight

No	Item	Description
1	Dimension (WxHxD)	- 10.2 x 2.9 x 7.4 inches (259. x 73 x 188. mm)
2	Weight	- < 4.5 Lb
3	Power Supply	- Universal 100—240 VAC+/-10%, 50-60 Hz with PFC input
4	Power consumption	- 265W+/-10%@110Vac(full mode) - < 9W(Stand by)
5	Resolution	- 1280x720
6	Brightness	- Typical 1300 ANSI lm - Minimum 1100 ANSI lm
7	Contrast	- Typical: 1800:1 - Minimum: 1200:1
8	Uniformity	- Typical : 80% - Minimum : 65%
9	Throw ratio	- 1.55 ~1.70 (Projection Distance/Image Width)
10	Projection lens	- YM09W, F/# = 2.44~2.58 at 2.36m, f = 21.8 ~ 23.8mm, 1.1X
11	Lamp life	- 3000/2000 (STD Mode/Bright Mode)
12	Tolerance	- Throw ratio <= +/- 5%
13	Color wheel	- 6 segments R100C23B72G90M30Y45, 3X
14	Lamp	- 180W Phoenix Lamp
15	Temperature	- Operating: 5°C -- 35°C (Satisfied engineering specification & functions) - Storage: -10°C-- 60°C
16	Altitude	- Operating: 0~2,500 ft 5°C~35°C for Bright mode (5°C~40°C for STD mode) 2,500~5,000 ft 5°C~30°C 5,000~10,000 ft 5°C~25°C - Storage :40,000 ft

No	Item	Description
17	Maximum Humidity	- Operating: 5°C -- 35°C , 0 - 80 %RH (Max.), non-condensing - Storage: -10°C -- 60°C , 0 - 80 %RH (Max.), non-condensing
18	Video compatibility	- NTSC: M (3.58MHz), 4.43 MHz, 480i/p @60Hz PAL: B, D, G, H, I, M, N, 576i/p @50Hz SECAM: B, D, G, K, K1, L HDTV: 480p, 576p, 720p, 1080i(50/60 Hz), 1080P(50/60 Hz) Support SCART RGB via D-SUB (VGA)
19	Cooling System	- Advanced Air Flow Two motor fans (one 4520 blower fan for lamp, one 6020 axial fan for system) Temperature control circuits with adaptive voltage control fan speed Max touch temperature follows UL60950-1 regulation

1-2 Compatible Mode

Analog

Compatibility	Resolution	V-Sync [Hz]
VGA	640x350	70
	640x350	85
	640x400	85
	640x480	60
	640x480	72
	640x480	75
	640x480	85
	720x400	70
	720x400	85
SXGA	800x600	56
	800x600	60
	800x600	72
	800x600	75
	800x600	85
XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85

Compatibility	Resolution	V-Sync [Hz]
HD	1280x720	60
SXGA	1152x864	70
	1152x864	75
	1152x864	85
	1280x1024	60
	1280x1024	75
	1280x1024	85
SXGA+	1400x1050	60
UXGA	1600x1200	60
Power Book G4- VGA	640x480	60
	640x480	72
	640x480	75
	640x480	85
Power Book G4- SXGA	800x600	60
	800x600	75
	800x600	85
Power Book G4- XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85
Power Book G4- WXGA	1280x768	60
	1280x768	70
Power Book G4- HD	1280x720	60
	1280x1024	60
	1280x1024	75
Power Book G4- SXGA+	1400x1050	60
Power Book G4- UXGA	1600x1200	60
Power G4- VGA	640x480	72
	640x480	75
	640x480	85
Power G4- SXGA	800x600	60
	800x600	75
	800x600	85
Power G4- XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85

Compatibility	Resolution	V-Sync [Hz]
Power G4-WXGA	1280x768	60
Power G4-HD	1280x1024	60
	1280x1024	75
Power G4-UXGA	1600x1200	60
iMAC-XGA	1024x768	60

Digital

Compatibility	Resolution	V-Sync [Hz]
VGA	640x480	60
	640x480	72
	640x480	75
	640x480	85
	720x400	70
SXGA	800x600	60
	800x600	72
	800x600	75
XGA	1024x768	60
	1024x768	70
	1024x768	75
	1280x1024	60
	1280x1024	75
SXGA+	1400x1050	60
UXGA	1600x1200	60
Wide	1280x720	60
	1280x720	50
	1920x1080	60
	1920x1080	24
	1920x1080	50

Disassembly Process

2-1 Equipment Needed & Product Overview

1. Screw Bit (+) :105
2. Screw Bit (+) :107
3. Screw Bit (-) :107
4. Hex Sleeves 5 mm
5. Tweezers
6. HD65/GT-7000/HD700X unit

** Before you start: This process is protective level II. Operators should wear electrostatic chains.*

** Note: If you need to replace the main board, you have to get into service mode and record the lamp usage hour.*



2-2 Disassemble Lamp Cover

1. Unscrew 2 screws on the lamp cover



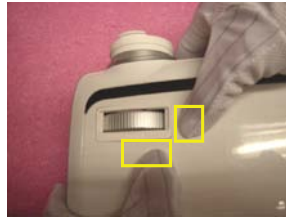
2-3 Disassemble Lamp Module

1. Unscrew 2 screws.



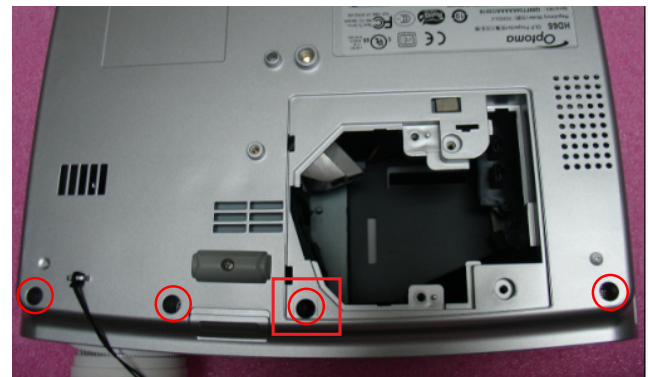
2-4 Disassemble Top Cover Module

1. Press yellow square region on Top Cover to make Zoom Ring Cover leap from fillister.

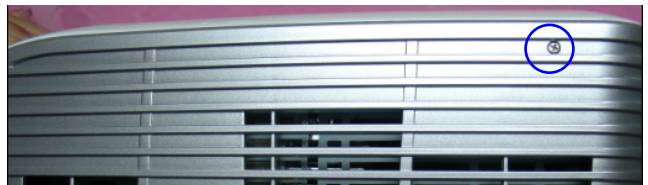


2. Unscrew 4 screws on the unit base.

Note: - When you disassemble Top Cover, you must disassemble Lamp Cover first, because there is 1 screw under the Lamp Cover.



3. Unscrew 3 screws on the sides and 3 connectors (as yellow square).



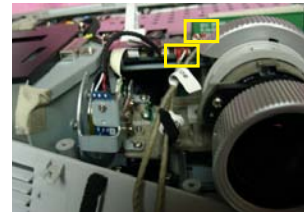
Note: - Push the top cover (as the parallel direction), then pull it up, because there are 8 tenons (as green square) in it.



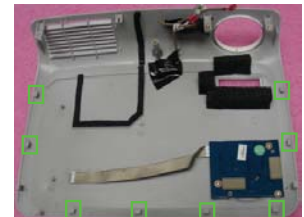
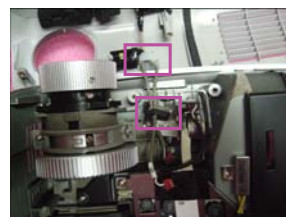
- Avoid damage by pulling and dragging IR cable and keypad FPC cable.



- Hold the CNNT plug when pulling the FPC cable is strongly recommended. Pulling the cable directly from the unit will cause the cable damages.



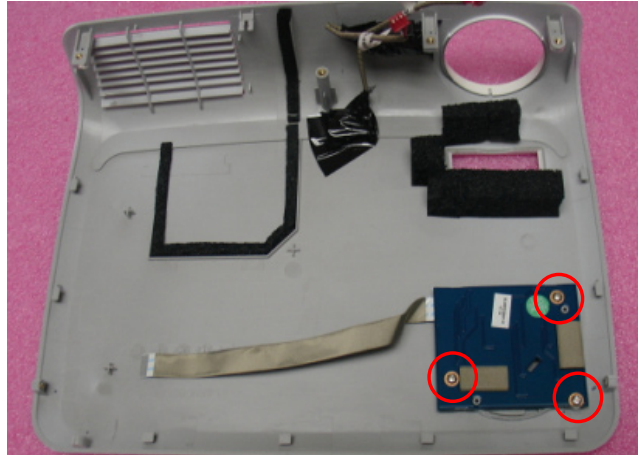
- Make sure cables pass through the wire mounts (as violet square) when assembling the unit.



2-5 Disassemble Keypad Board and Keypad

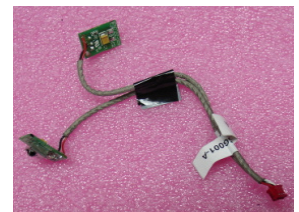
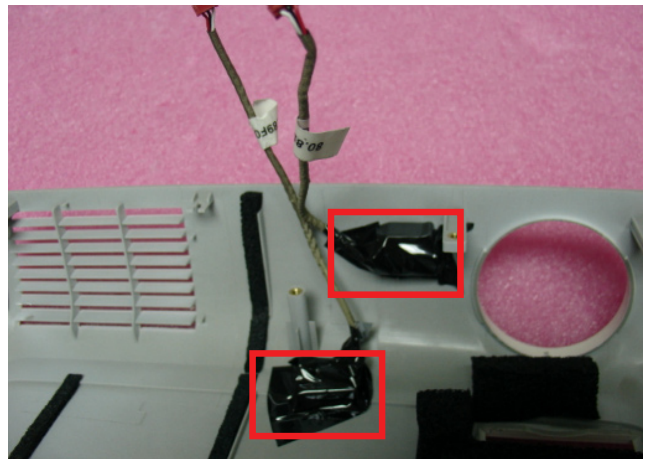
1. Unscrew 3 screws to disassemble the Keypad Board.
2. Separate the Keypads from the top cover.

Note: - Make sure cables plug into the correct ports when assembling the unit.



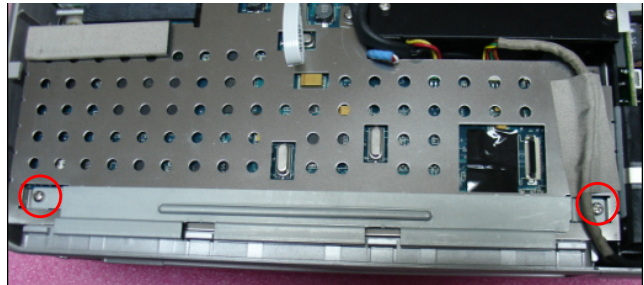
2-6 Disassemble IR Sensor

1. Use tweezers to take off the black film tape, then press two tenons to disassemble the IR Sensor. The other disassemble is same as above.



2-7 Disassemble I/O Cover

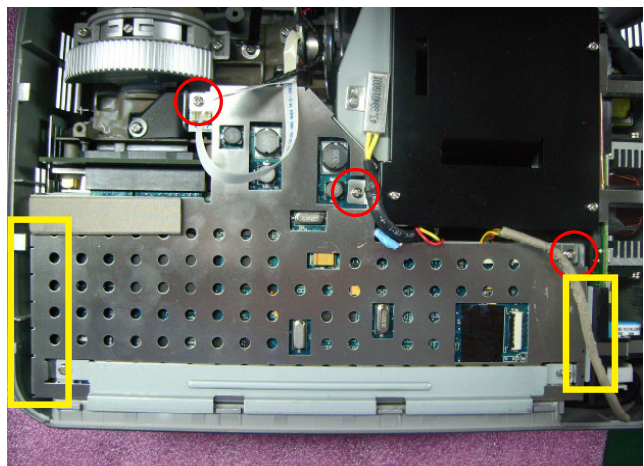
1. Unscrew 2 hex screws and 2 screws to disassemble I/O cover and I/O cover Shielding.



2-8 Disassemble Top Shielding

1. Unscrew 3 screws on the system.

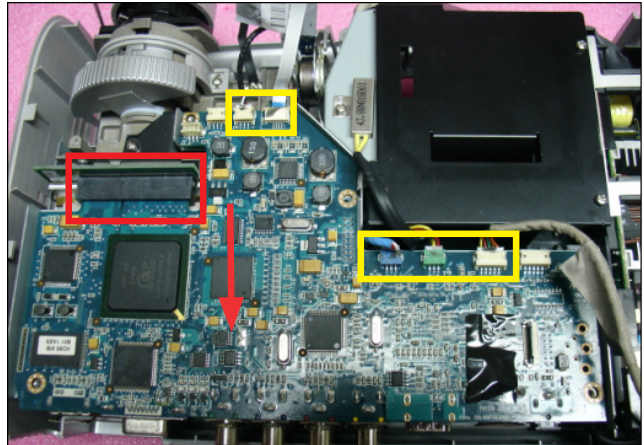
Note: - When you assemble the Top shielding, you should place the 2 edges into the gap between Main Board and Main Board Shielding. (refer to 2-9 and 2-10)



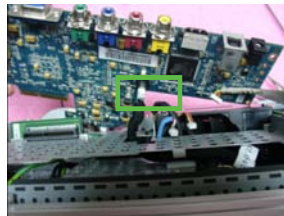
2-9 Disassemble Main Board

1. Unplug 7 connectors.

Note: - First unplug 5 connectors(as yellow squares) and 1 connector(as red square),then push the Main Board as the red arrow,at last unplug the connector (as green square).

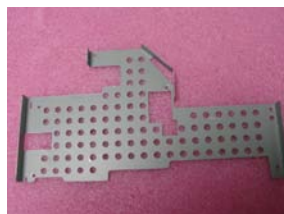
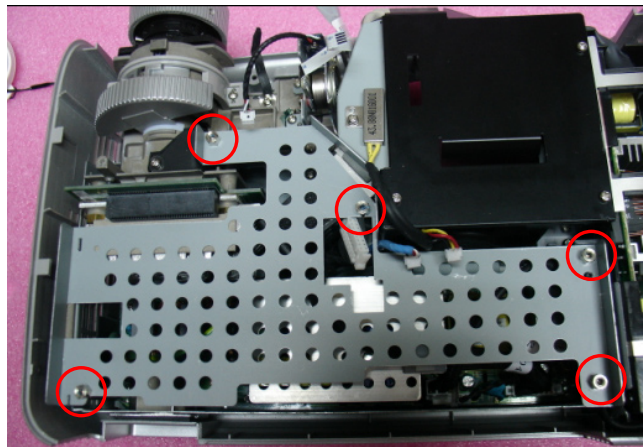


- Make sure cables plug into the correct ports when assembling the unit.



2-10 Disassemble Main Board Shielding

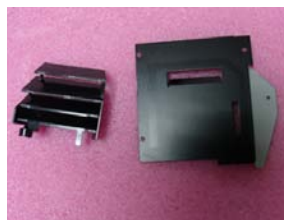
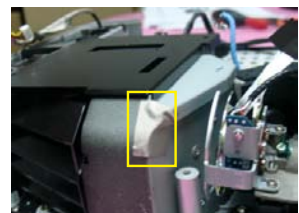
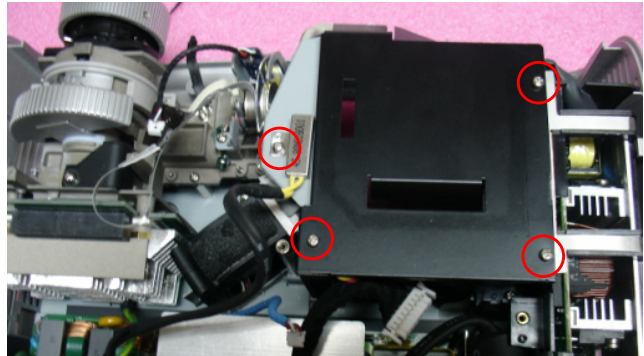
1. Unscrew 5 hex screws on the system.



2-11 Disassemble Lamp House Shielding

1. Unscrew 5 screws to disassemble two House Shieldings.

Note: - When you disassemble the top House Shielding, need to take off the white film tape.

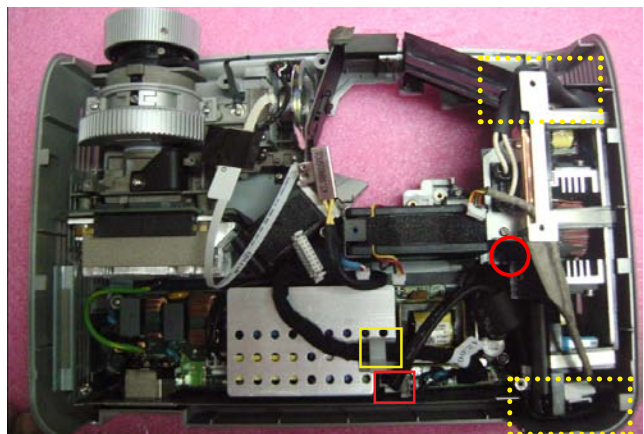


2-12 Disassemble Lamp Driver Module

1. Unscrew 2 screws (as red circle) and 1 connector (as red square) to take out the lamp driver from bottom cover.

Note: - Take care which place the cables (as yellow dots square) pass through.

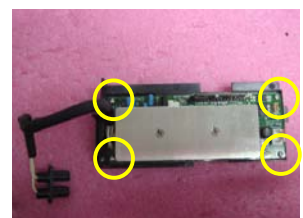
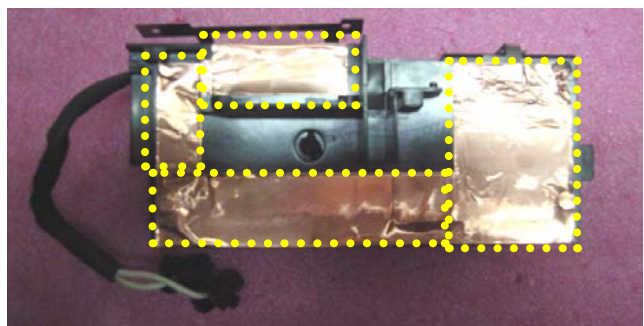
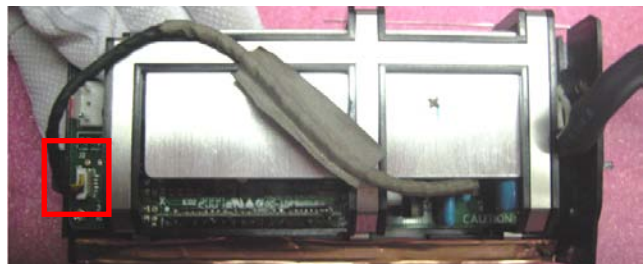
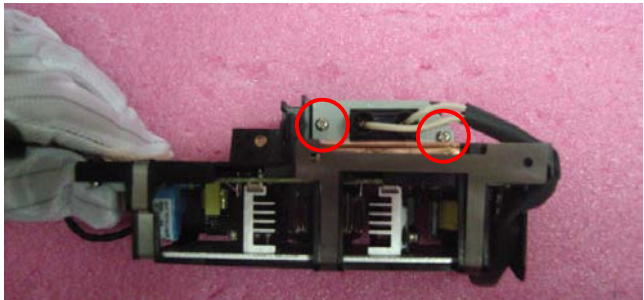
- You should make the Lamp Driver-Main Board Cable pass through the wire mount (as yellow square) when you assembling the unit.



2-13 Disassemble Lamp Driver

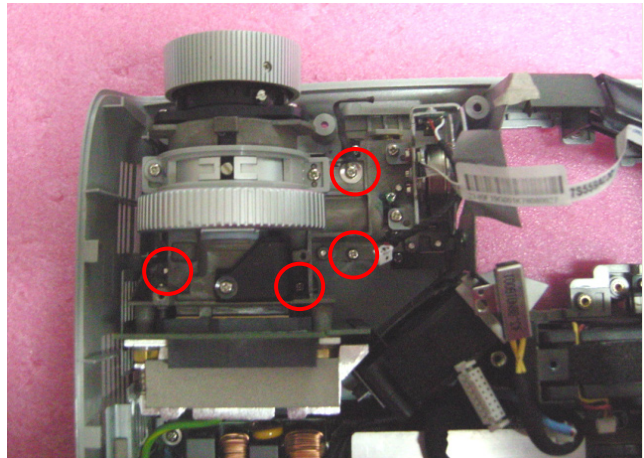
1. Unscrew 2 screws to disassemble Iron Cut.
2. Unplug 1 connector to disassemble 5 pin cable.
3. Take off EMI Foil Copper to separate Sheetmetal and Sheetmetal protector.
4. Unscrew 4 screws to separate Lamp Driver and Lamp Driver Holder.
5. Take off Lamp Driver Thermal Pad.

Note: - When you paste the Thermal Pad, you should make sure it's edge along with the red line.



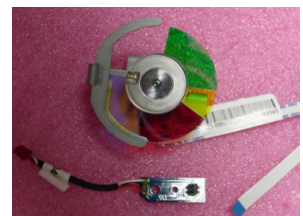
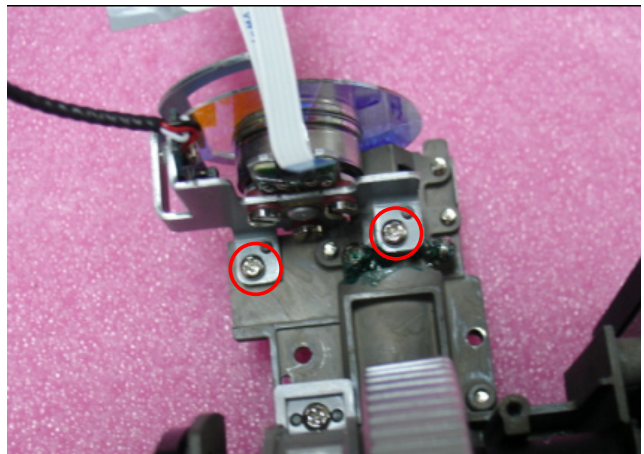
2-14 Disassemble Engine Module

1. Unscrew 4 screws on the System to disassemble Engine Module and Wire Mount.



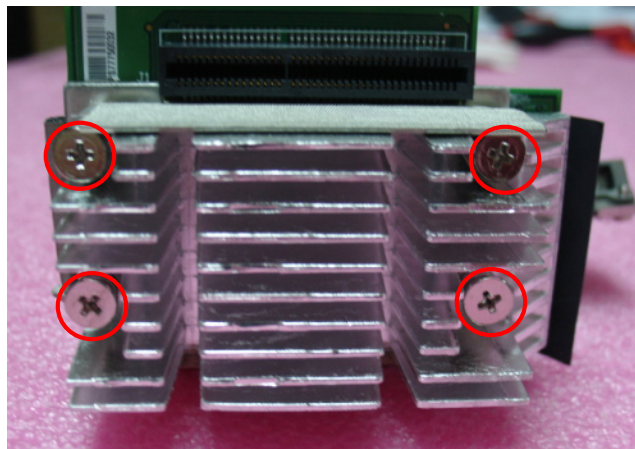
2-15 Disassemble Color Wheel and Photo Sensor Board

1. Unscrew 2 screws (as red circle) to disassemble Color Wheel Module.
2. Unscrew 1 screw from Color Wheel Module (as blue circle) and take out the Photo Sensor Board.



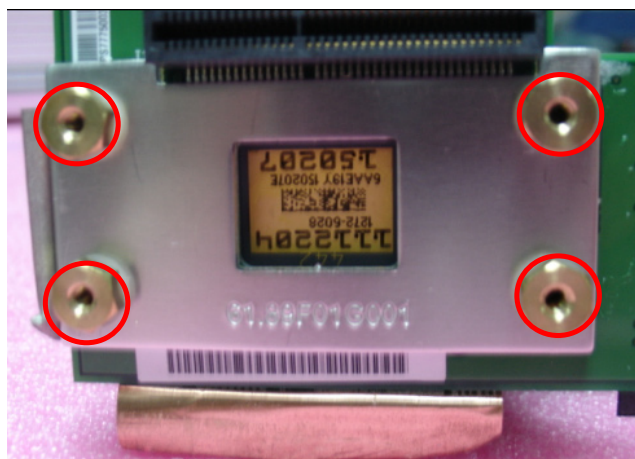
2-16 Disassemble Heat Sink

1. Unscrew 4 screws on the system.



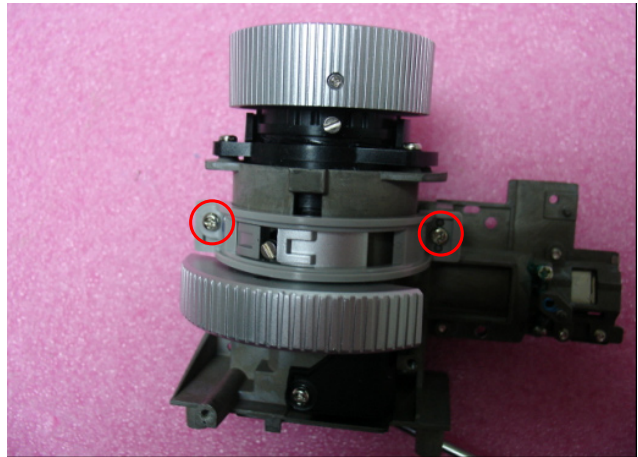
2-17 Disassemble DMD Module

1. Unscrew 4 screws on the system then separate the DMD Module.



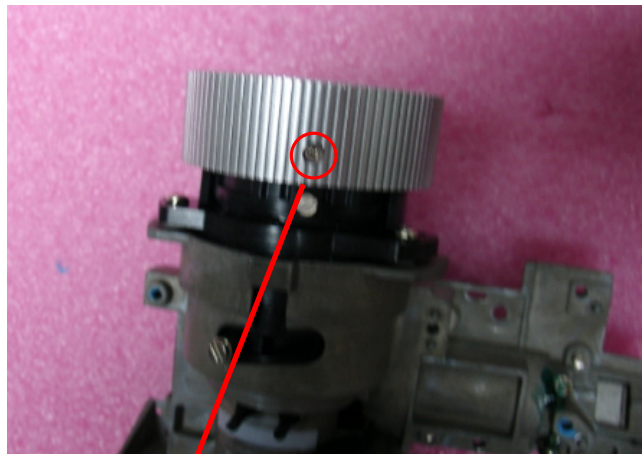
2-18 Disassemble Zoom Ring

1. Unscrew 2 screws on the system.



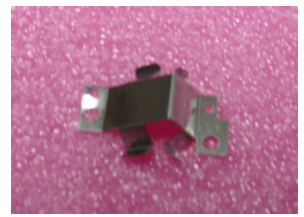
2-19 Disassemble Focus Ring

1. Unscrew 3 screws (as red circle) on the system.



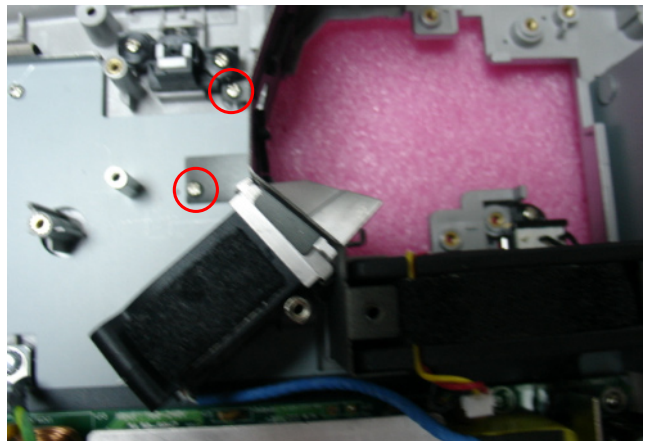
2-20 Disassemble Rod Module

1. Unscrew 3 screws on the system.



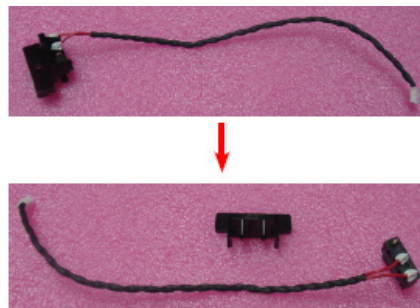
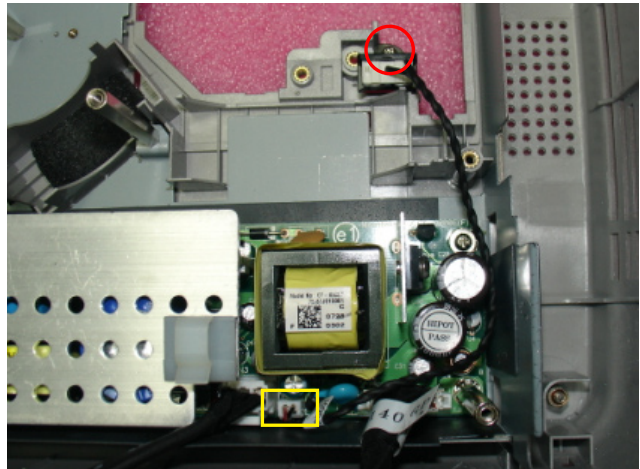
2-21 Disassemble Fan and Blower

1. Unscrew 2 screws on the bottom base, disassemble Fan, Blower and Duct module on the system.
2. Separate the Duct Module.



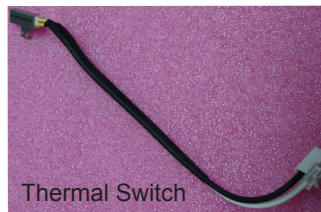
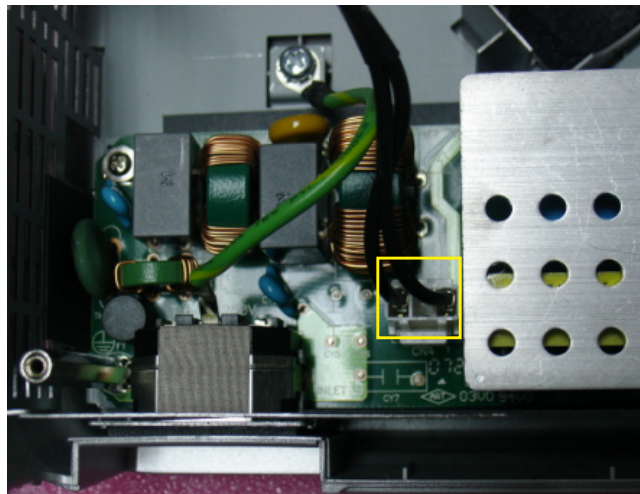
2-22 Disassemble Limit Switch

1. Unscrew 1 screw and 1 connector from the bottom base.
2. Separate Limit Switch and Limit Switch Holder.



2-23 Disassemble Thermal Switch

1. Unplug 1 connector from the bottom base.

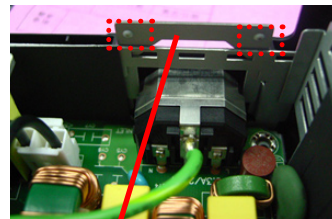
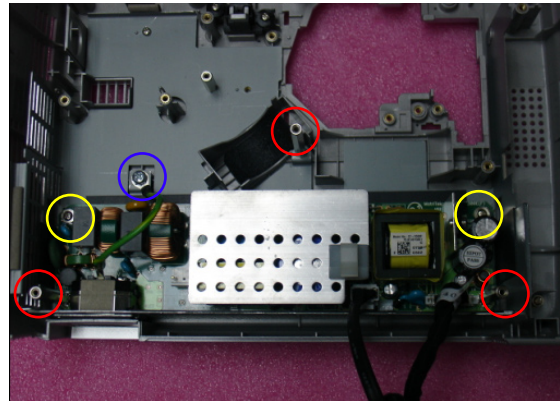


2-24 Disassemble LVPS Module

1. Unscrew 3 hex screws(as red circle) 2 screws(as yellow circle) and 1 screw (as blue circle) to disassemble the LVPS Module.

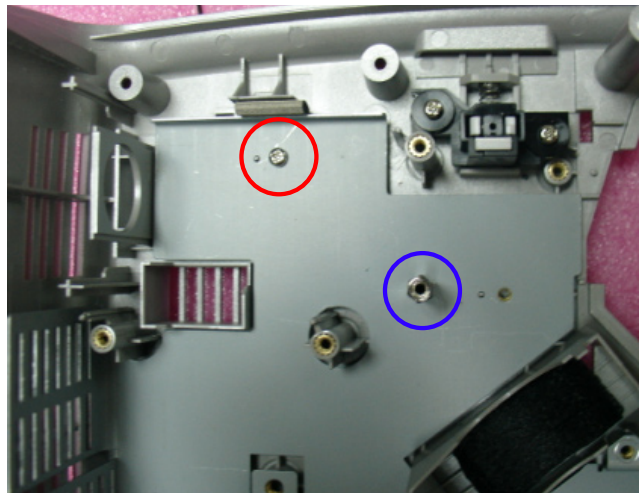
Note: - When you disassemble the Iron Cut, you should use tweezers to raise it up, from the hook.

- You should make the raised-dots side of Iron Cut face to inner of the unit when assemble it. (as red dot square).



2-25 Disassemble Bottom Shielding

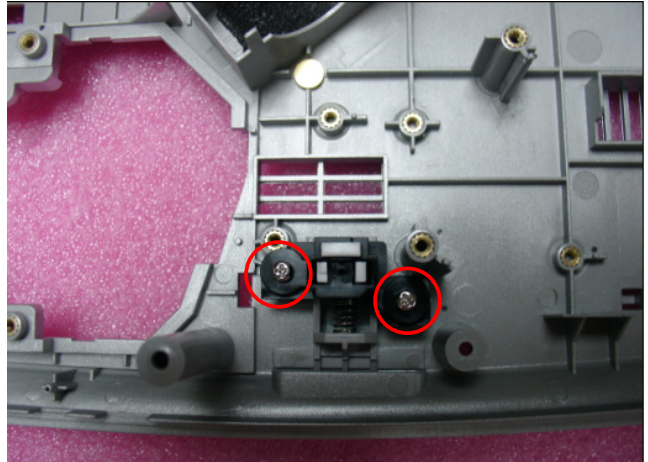
1. Unscrew 1 hex screw (as blue circle) and 1 screw(as red circle) on the bottom cover, disassemble the Bottom Shielding.



2-26 Disassemble Elevator

1. Unscrew 2 screws inside of the bottom cover and 1 screw outside of the bottom cover.
2. Separate the rest Elevator module from the bottom cover.

Note: - Use the tweezers to take off the short spring.



2-27 Rod Adjustment

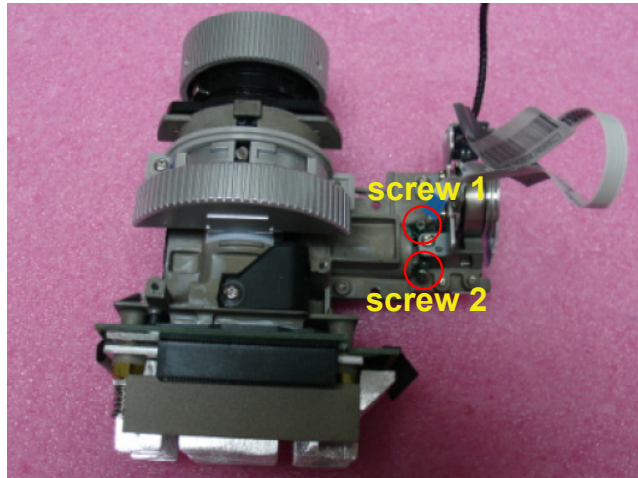
1. Environment adjustment

- The distance between the engine and the screen is 2.1M.
- This process should be done at a dark environment. (under 5 Lux)

2. Procedure adjustment

- Change the screen to “white screen.”
- Adjust the screws by using the rod on the engine module to readjust the image.
If there are shadow at “Top” & “Bottom” side of the screen, adjust “Screw 1” to adjust Rod position.
- If there are shadow / yellow light / blue light at “Left” & “Right” side of the screen, adjust “Screw 2” to adjust Rod position.
- “Screw 1” should be adjusted first, then “Screw 2”.

(adjust until the yellowish or bluish parts disappeared.)



3. Abnormal image inspection

- It should not have any abnormal color at the rim of the image by estimating through the eyes.

Note: - To avoid over adjust the rod.

- After the opration,please use the glue to fixed the screws.*

2-28 Re-write Lamp Usage Hours

1. Get into service mode

- Press (Power→Left→Left→Up) to get into service mode.

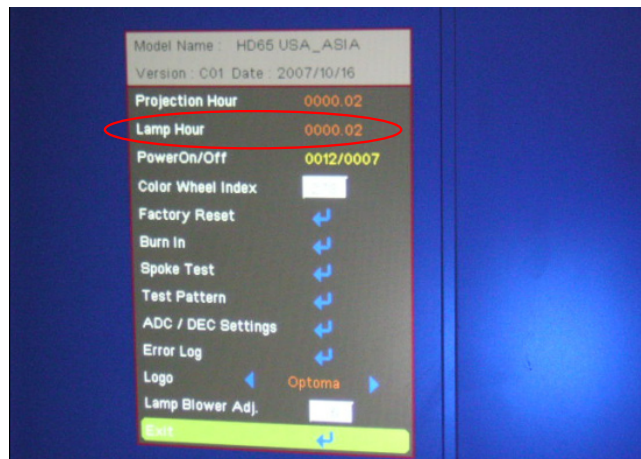
2. Use “Up” or “Down” key to make light mark stay on the “Exit”.

3. Use “Left” or “Right” key to re-write the lamp hour back to previous lamp usage hours.

Note: Left key = decrease lamp hour

Right key=increase lamp hour

4. Press “Enter” to exit service mode.



Troubleshooting

3-1 LED Lighting Message

Message	Power/Standby LED (Green/Red)	Temp-LED (Red)	Temp-Led (Red)
Standby State (input power cord)	Red	○	○
Power on (Warming)	Flashing Green	○	○
Lamp Lighting	Green	○	○
Error (Over Temp)	○	*	○
Error (Fan Fail)	○	○	Flashing (1sec on,1sec off)
Error (Lamp Fail)	○	○	*

Note: Steady Light: *

No Light: ○

3-2 Main Procedure

No	Symptom	Procedure
1	No Power	<ul style="list-style-type: none">- Ensure the Power Cord and AC Power Outlet are securely connected- Check Lamp Cover and Interrupt Switch- Ensure all connectors are securely connected and aren't broken- Check Lamp Driver- Check LVPS- Check Main Board
2	Auto Shut Down	<ul style="list-style-type: none">- Check LED Status<ul style="list-style-type: none">a. Lamp LED Light<ul style="list-style-type: none">- Check Lamp- Check Lamp Driver- Check Main Boardb. Temp LED Light<ul style="list-style-type: none">- Check Thermal Sensor- Check Thermal Switch- Check Fanc. Color Wheel<ul style="list-style-type: none">- Check Color Wheel- Check Photo Sensor

No	Symptom	Procedure
3	No Image	<ul style="list-style-type: none"> - Ensure the Signal Cable and Source work (If you connect multiple sources at the same time, use the “Source” button on the control panel to switch) - Ensure all connectors are securely connected and aren’t broken - Check Main Board - Check DMD Board - Check Color Wheel - Check DMD Chip - Check Engine Module
4	No Light On	<ul style="list-style-type: none"> - Ensure all connectors are securely connected and aren’t broken - Check Lamp Module - Check Lamp Driver - Check LVPS - Check Main Board
5	Machanical Noise	<ul style="list-style-type: none"> - Check Color Wheel - Check Fan Module
6	Line Bar/Line Defect	<ul style="list-style-type: none"> - Check if the Main Board and the DMD Board are assembled properly - Check Main Board - Check DMD Board - Check DMD Chip
7	Image Flicker	<ul style="list-style-type: none"> - Do “Reset(All data)” of the OSD Menu - Ensure that the signal cables and source are work as well - Check Lamp Module - Check Color Wheel - Check DMD Board - Check Main Board

No	Symptom	Procedure
8	Color Abnormal	<ul style="list-style-type: none"> - Do "Reset(All data)" of the OSD Menu - Adjust Color Wheel Index - Check Main Board - Check DMD Board - Check Color Wheel
9	Poor Uniformity/ Shadow	<ul style="list-style-type: none"> - Ensure the projection screen without dirt - Ensure the projection lens is clean - Ensure the Brightness is within spec - Check rod alignment - Check Engine Module
10	Dead Pixel/Dust (Out of spec.)	<ul style="list-style-type: none"> - Ensure the projection screen without dirt - Ensure the projection lens is clean - Clean DMD Chip and Engine Module - Check DMD Chip - Check Engine Module
11	Garbage Image	<ul style="list-style-type: none"> - Ensure that the signal cables and source work as well. - Check Main Board - Check DMD Board
12	Remote Control/ Control Panel Failed	<ul style="list-style-type: none"> - Remote Control <ul style="list-style-type: none"> a.Check Battery b.Check Remote Controller c.IR receiver d.Check Main Board - Control Panel <ul style="list-style-type: none"> a.Check FPC b.Check keypad c.Check Main Board
13	Function Abnormal	<ul style="list-style-type: none"> - Do "Reset(All data)" of the OSD Menu - Check Main Board - Check DMD Board

Function Test & Alignment Procedure

4-1 Test Equipment Needed

- IBM PC with XGA/SVGA resolution
- DVD player with Multi-system (NTSC/PAL/SECAM), equipped "Component", "S-Video" , "Composite" and "HDMI".
- HDTV Source (480P , 1080i , 1080P)
- Minolta CL-100
- Quantum Data 802B or CHROMA2327 (Color Video Signal & Pattern Generator)
- After changing parts, check the information below.

4-2 Service Mode

1. Turn on the projector
2. Do the following actions sequentially to enter service mode menu
 - (1) Press "Power", "Left", "Left" and "Up" button sequentially.
 - (2) Service mode will be shown.
 - (3) After confirming the configuration, press "Exit" to exit.

4-3 OSD Reset

1. After final QC step, we have to erase all saved change again and restore the OSD default setting. The following actions will allow you to erase all end-users' settings and restore the default setting:
 - (1) Please enter OSD menu.
 - (2) To execute "Reset" function.

4-4 Test Condition

- Circumstance brightness: Dark room less than 5.0 lux.
- Inspection distance: 1.8m~2.5m functional inspection.
- Screen size: 60 inches diagonal
- After repairing each HD65/GT-7000/HD700X, the unit should be run-in (refer to the table below)

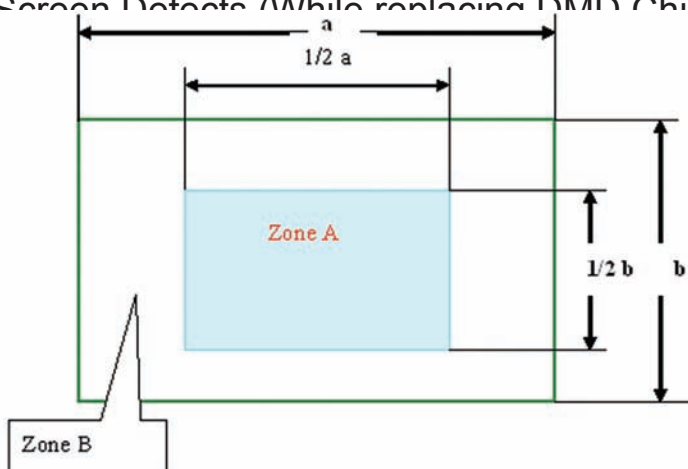
Symptom	Run-in Time
Normal repair	2 hours
NFF	4 hours
Auto shut down	6 hours

- Enter Burn-In Mode

* Cycle setting is based on the defect symptoms. ie: If it is NFF, the run-in time is 4 hours. You have to set the lamp on for 50 min. and lamp off for 10 min for 4 cycles.

Press "Power", "Left", "Left" and "Up" button sequentially..	
Choose Burn-In Test > enter	
Lamp On (Min)	Press right key to adjust the time (50)
Lamp Off (Min)	Press right key to adjust the time (10)
Set burn in cycle	Press right key to adjust the cycle
After setting up the time, choose Burn-In mode and hit enter	

Screen Defects (While replacing DMD Chip, DMD BD and MB)



Defect specification table

Order	Symptom	Pattern	Criteria
1	Bright pixel (dots)	Black pattern (IRE=0)	A+B=0
2	Dark pixel(dots)	White pattern	A+B=6
3	Unstable pixel (dots)	Any pattern	A+B=1
4	Adjacent dark pixel (dots)	Any pattern	A+B=0
5	Dark blemish (Dirty)	Blue 60 pattern	A+B=3 (diameter <1/2 inch)
6	Bright blemish (Dirty)	Gary 30 pattern	A+B=3 (diameter <1/2 inch)
7	Bright dot on frame	Black pattern	2

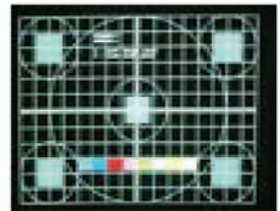
4-5 Test Inspection Procedure

Charge parts/ Update	M/B	FW	Color Wheel	Lamp Module
Version Update	v	v		
Color Wheel Index	v		v	
PC Calibration				
YPbPr Calibration				
Reset lamp hour				v
OSD Reset	v	v		
EDID	v			
Re-write Lamp Hour Usage	v			

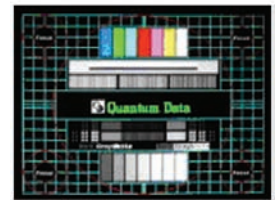
4-6 PC MODE

1. Frequency and tracking boundary

Procedure	<ul style="list-style-type: none"> - Test equipment: video generator. - Test signal: analog 1280 x 720@60Hz - Test Pattern: general-1 or master - Check and see if the image sharpness is well-performed. - If not re-adjust by the following steps: <ol style="list-style-type: none"> (1) Select "Frequency" function to adjust the total pixel number of pixel clock in one line period. (2) Select "Tracking" function and use right or left arrow key to adjust the value to minimize video flicker. - Adjust Resync or Frequency/Tracking/H. Position/V. Position to the inner screen.
Inspection item	<ul style="list-style-type: none"> - Eliminate visul wavy noise by Rsync, Frequency or Tracking selction. - Check if there is noise on the screen. - Horizontal and vertical position of the vedio should be adjustable to the screen frame.
Criteria	<ul style="list-style-type: none"> - If there is noise on the screen, the product is considered as faliure product. - If there is noise on the screen, use auto or manual "frequency" function or "tracking" function to adjust the screen. - The PC mode functionally sure be workable include support format with frequency and auto detected functional will be workable.



General-1



Master

2. Light Leak

Procedure	<ul style="list-style-type: none">- Test equipment: video generator.- Test signal: analog 1280 x 720@60Hz- Test Pattern: gray 30 patterns- Check if the light leaks. <p>* Light leak on reflective edge, eyecatcher, bond-wires and exposed metal.</p>
Inspection item	<ul style="list-style-type: none">- Light leak check.- Bright blemish (dirty).
Criteria	<ul style="list-style-type: none">- The pattern cannot accept the color level of the leakage is brighter than the gray 30 pattern.- Ref. below table <p>Note: The defect criteria follows TI specification.</p>



Gray 30

3. Blemish (Dark)

Procedure	<ul style="list-style-type: none">- Test equipment: video generator.- Test signal: analog 1280 x 720@60Hz.- Test Pattern: blue 60
Inspection item	<ul style="list-style-type: none">- Dark blemish check.(dirty)
Criteria	<ul style="list-style-type: none">- The bright blemish is unacceptable when it appears on blue 60 pattern.- Ref. below table <p>Note: The defect criteria follows TI specification.</p>



Blue 60

4. Dead Pixel (Bright pixel)

Procedure	<ul style="list-style-type: none">- Test equipment: video generator.- Test signal: analog 1280 x 720@60Hz.- Test Pattern: full black
Inspection item	<ul style="list-style-type: none">- Bright pixel check. <p>Note: Frame dimension under operative zone1 inch</p>
Criteria	<ul style="list-style-type: none">- Bright pixel is unacceptable.- Ref. below table <p>Note: The defect criteria follows TI specification.</p>



Full black

5. Dead Pixel (Dark pixel)

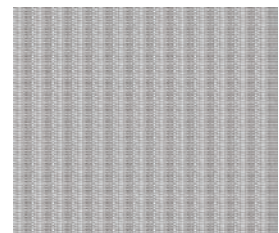
Procedure	<ul style="list-style-type: none"> - Test equipment: video generator. - Test signal: analog 1280 x 720@60Hz. - Test Pattern: full white
Inspection item	<ul style="list-style-type: none"> - Dead pixels check. - White pattern (IRE=100) - Adjacent dark pixel.
Criteria	<ul style="list-style-type: none"> - The number of the dead pixels should be less or equal to 6 pixels. - Adjacent pixel with each other is unacceptable. - Ref. below table <p>Note: The defect criteria follows TI specification.</p>



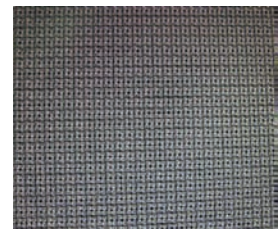
Full white

6. Focus test

Procedure	<ul style="list-style-type: none"> - Test equipment: video generator. - Test signal: analog 1280 x 720@60Hz - Test Pattern: full screen or MEME Sony
Inspection item	<ul style="list-style-type: none"> - Focus check
Criteria	<ul style="list-style-type: none"> - From screen 2.1 M <p>via visual to check the focus, look at the entire screen, focus shall be clear, crisp, and sharp over the entire surface of the display pattern.(Blur word on one of the corner after adjustment is acceptable. However, the word should at least be recognizable.)</p>



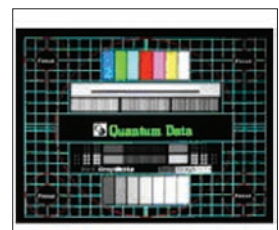
Full screen



MEME Sony

7. Color performance

Procedure	<ul style="list-style-type: none"> - Test equipment: video generator. - Test signal: DVI 1080p, 1080i - Test Pattern: Master, In focus II or SMPTE RP-133 <p>* Please refer to 4-2 to enter service mode. Use 1080i & 1080P signal, master pattern to do</p>
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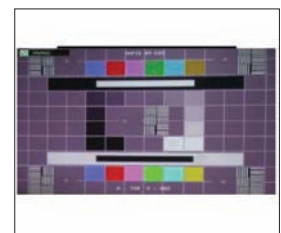


Master

	HDTV test. Color cannot discolor to purple and blue. If the test result is discoloration or flickering, please return the unit back to repair centers.
Inspection item	<ul style="list-style-type: none"> - Check if each color level is well-functioned. - color saturations
Criteria	<ul style="list-style-type: none"> - Screen appears normal. It should not have any abnormal condition, such as lines appear on the screen and so on. - Color appears normal. - It is acceptable to have few lines flashing at the center and on the edge of 1080P image. However, rest of the image should appears stable. - RGBW should all appear normal on the screen and sort from R -G-B-W. - Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.) - Gray level should not have abnormal color or heavy lines. - The PC mode functionally sure be workable include support format with frequency and auto detected functional will be workable



*InFocus II
/ 64 gray RGBW*



SMPTE RP-133

4-7 Video Performance

1. CVBS

Procedure	<ul style="list-style-type: none"> - Test equipment: DVD player - Test signal: CVBS
Inspection item	- Video performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	<ul style="list-style-type: none"> - Check any abnormal color, line distortion or any noise on the screen. - Check the sound from speakers.



Motion video

2. S-Video

Procedure	<ul style="list-style-type: none">- Test equipment: DVD player- Test signal: S-Video
Inspection item	<ul style="list-style-type: none">- Video performance test
Inspection Distance	<ul style="list-style-type: none">- 1.8M ~2.5M
Criteria	<ul style="list-style-type: none">- Check any abnormal color, line distortion or any noise on the screen.- Check the sound from speakers.

3. HDTV/ Component

Procedure	<ul style="list-style-type: none">- Test equipment: DVD player- Test signal: Ycbcr/YPbPr
Inspection item	<ul style="list-style-type: none">- HDTV performance test
Inspection Distance	<ul style="list-style-type: none">- 1.8M ~2.5M
Criteria	<ul style="list-style-type: none">- Check any abnormal color, line distortion or any noise on the screen.- Check the sound from speakers.

4. Audio Test

Procedure	<ul style="list-style-type: none">- Test equipment: DVD player- Test signal: CVBS
Inspection item	<ul style="list-style-type: none">- Audio performance test
Inspection Distance	<ul style="list-style-type: none">- 1.8M ~2.5M
Criteria	<ul style="list-style-type: none">- Check the sound from speakers.- Check "Volume" is normal- Check "Mute" is normal

4-8 Optical Performance Measure

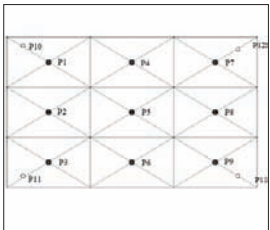
Inspection Condition
<ul style="list-style-type: none">- Environment luminance: 5 Lux- Product must be warmed up for 3 minutes- Distances from the screen: 2.1 M- Screen Size: 60 inches diagonal- Reset to default before measurement

1. Test equipment

Procedure	<ul style="list-style-type: none">- Test equipment: video generator.- Test signal: analog 1280 x 720@60Hz
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2. Brightness

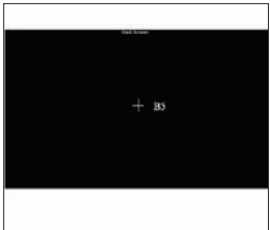
Procedure	<ul style="list-style-type: none">- Full white pattern- Use CL100 to measure brightness values of P1~P9.- Follow the brightness formula to calculate brightness values. <p>☀ Brightness Formula</p> $\text{Avg.}(P1 \sim P9) \times 1.1\text{m}^2$
Criteria	<ul style="list-style-type: none">- 605 lumens



Full white pattern

3. Full On/Full Off Contrast

Procedure	<ul style="list-style-type: none">- Full white pattern & full black pattern- Use CL100 to measure brightness values of full white pattern P5 & full black pattern B5 (see image: full white)- Follow Contrast formula to calculate contrast values. <p>☀ Contrast Formula</p> $P5/B5$
-----------	--



Full black pattern

note: P5=center of white image

B5=center of black image.

Criteria - 1200:1

4. Uniformity

Procedure

- Full white pattern
- Use CL100 to measure brightness values of P1~P9 (see image: full white).
- Follow the Uniformity formula to calculate average values.

☀ Uniformity Formula

$$\text{ANSI Uniformity} = \frac{\text{Avg. (P1, P3, P7, P9)}}{P5} \times 100\%$$

Criteria - 65% (JBMA)

4-9 Others

1. Functional Inspection

Keypad button	- All keypad buttons must operate smoothly.
General	- All OSD functions must be checked for functionality. When OSD menu is displayed, there shall be no visible peaking, ringing, streaking, or smearing artifacts on the screen.
Factory Default	- The factory settings (with appropriate centering, size, geometry distortion, etc.) shall be displayed upon "Recall" is selected from OSD

Display Size	- All preset modes shall expand to full screen size using OSD Horizontal and Vertical Size controls
Display Data Channel (DDC)	- The purpose of the DDC test is to verify the DDC1/DDC2B operation of the projector and to verify Plug & Play function.
Acoustic	- High pitch sound from cooling fan and color wheel is unacceptable.

2. Check points for exterior and print pattern

Check item	Check point
Text & Pattern	Missing letters & pattern or blurry prints are unacceptable.
Exterior	Dirt, scrape, water ripples and uneven color are unacceptable.
Buttons	Stuck buttons are unacceptable.
Focus ring	Focus ring is functioning smoothly.
Logo	Missing logo, missing prints and blurry prints are unacceptable
Screw	All screw sure be fixed and in right type.
Pedestal	Well-functioned
Lamp Cover	It should be locked in the correct place.
Plastic Parts	All plastic parts can not be brocken and damaged.
Safety or warning label	All safety and warning label should be visible, including all contents.
Connector	All interface connector should be complete and workable.

Firmware Upgrade

5-1 Equipment Needed

Software : (DDP 2230- USB)

- DLP Composer
- Firmware
- Library file (library file has to put in PC and set right path in 5-4 step 4)

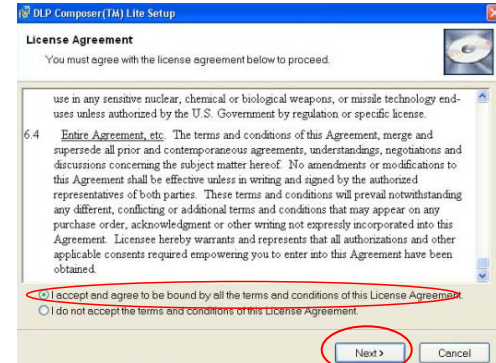
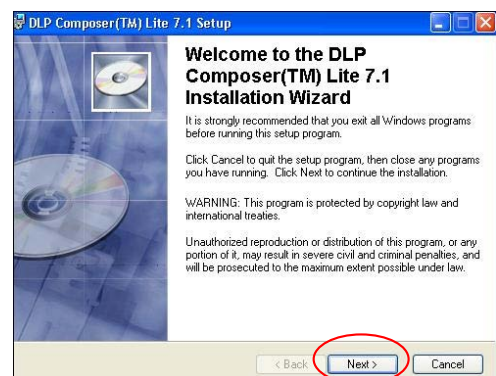
Hardware :

- Projector
- Power cord:42.50115G001
- USB Cable:42.00280G001
- PC or Laptop



5-2 DLP Composer Lite Setup Procedure

1. Choose "DLP Composer Lite V7.1 Setup" Program.
2. Click "Next" button
3. Read "License Agreement."
 - Choose "I accept and agree to be bound by all the terms and conditions of this License Agreement."
 - Click "Next" button.
4. Click "Next" button.

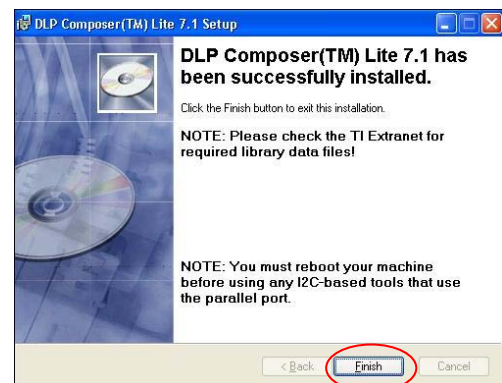
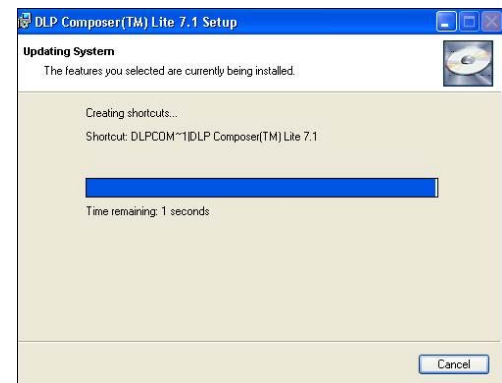
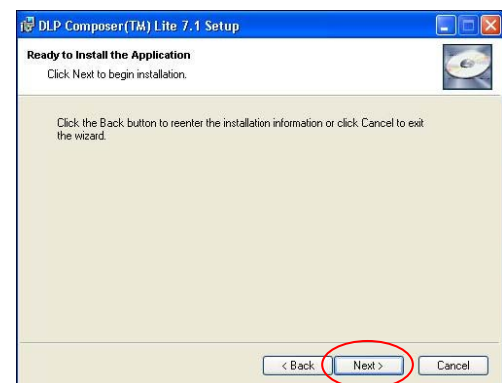
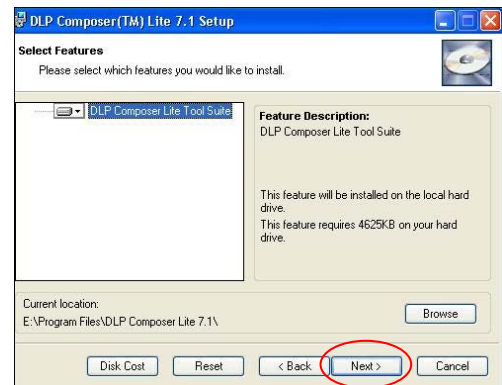


5. Click “Next” button.

6. Click “Next” button.

7. The program is executing "Initializing" status

8. Click “Finish.”



5-3 USB Driver Upgrade Procedure

1. Set up

- Connect the Projector with PC by USB cable.
- It will show as the right picture.
- Select the item as red circle show.
- Click "Next" button.



2. Installation

- Click "Finish" and then the USB driver has been set up successfully.



5-4 Firmware Upgrade Procedure

1. Set-up

- Hold on “Menu” button then plug in power cord.
- Once lamp and temp LED light up, plug in USB cable into the projector and link to the USB port of PC.

Note: The system fan and the light will not operated.



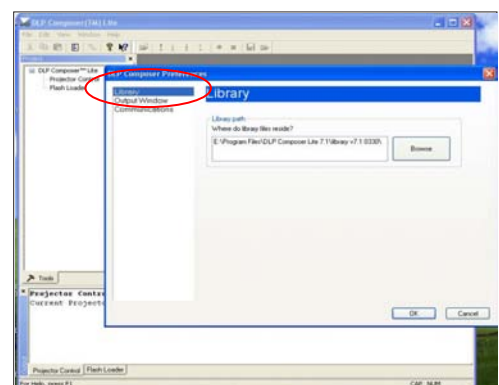
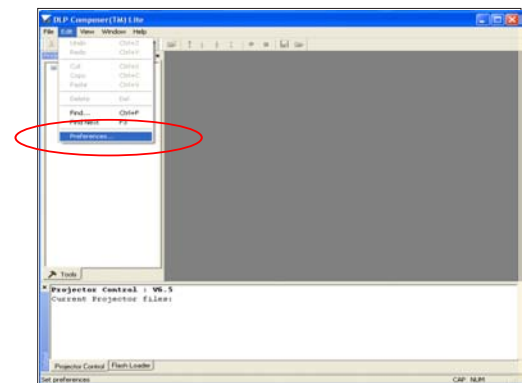
2. Execute the “DLP Compose™” file.

3. Click “edit” and “perferences.”

4. Click “Library.”

- The library path located in the default installation directory
- E:\Program Files\DLP Composer Lite 7.1\library v7.1 0330

Note: If not, press “Browse” to select the right path.

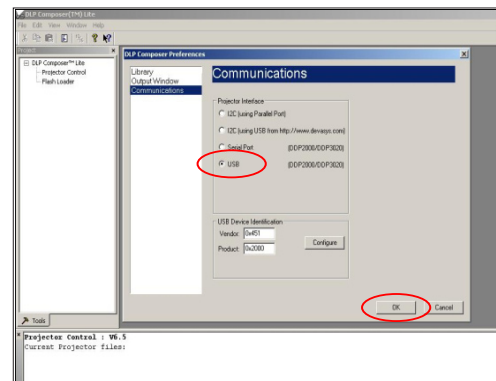


5. Select “Edit\preferences\Communications”

- Choose “USB.” Click “OK.”

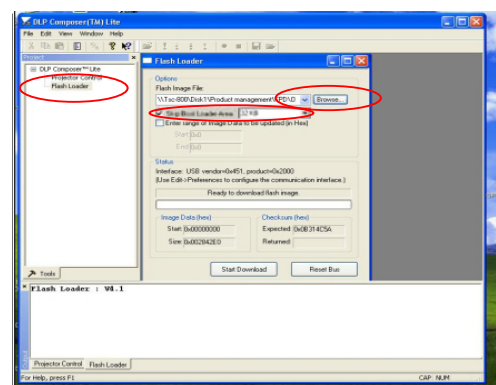
6. Choose “Flash Loader.”

- Click “Browse” to search the firmware file.
- Skip Boot Loader Area choose "32KB"



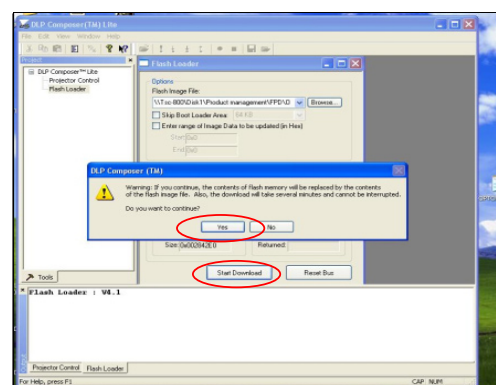
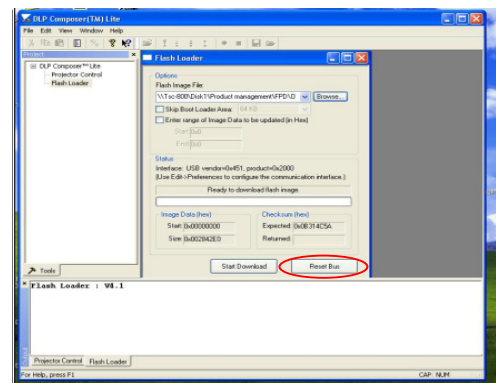
7. Click “Reset Bus” to erase the flash memory

Note: If the error message “cannot open USB driver - No projectors found” appears, please unplug the USB Cable and replug, then check Driver. Finally, repeat procedure 7. Click “Reset Bus” to erase the flash memory.



8. If the firmware is ready, click “start download” to process the firmware upgrade.

- Click “Yes” to erase the flash memory.



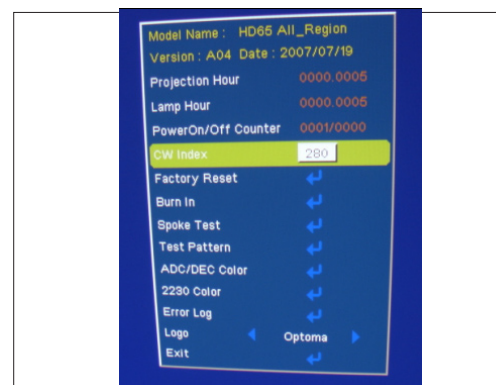
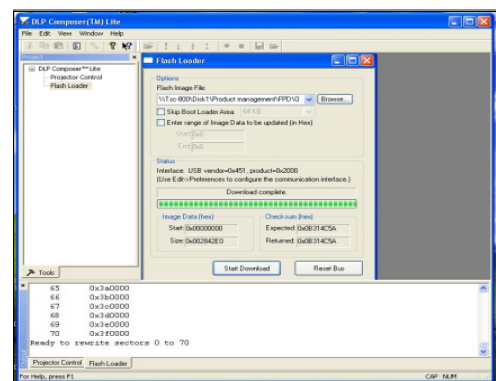
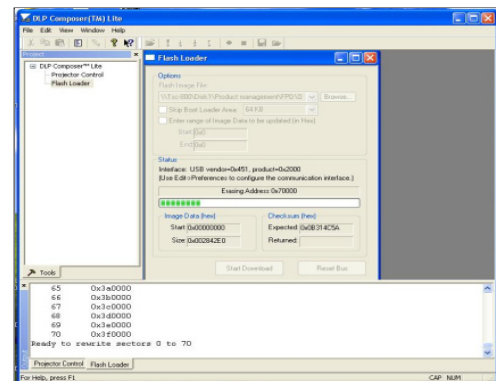
9. Proceeding Picture.

10. When firmware upgrade process is finished, the unit return to stand-by status. The LED power lights on and appears blue.

- Unplug USB cable and power cord and replug in power cable.

11. Restart the unit and enter the Service mode to check the firmware version.

(To enter Service mode, please refer to Chapter 4 Function Test and Alignment Procedure.)



EDID Upgrade

6-1 EDID Introduction

Extended Display Identification Data is a VESA standard data format that contains basic information about a display device and its capabilities, including vendor information, maximum image size, color characteristics, factory pre-set timings, frequency range limits, and character strings for the monitor name and serial number.

The information is stored in the display and is used to communicate with the system through a Display Data Channel (DDC), which sits between the display device and the PC graphics adapter. The system uses this information for configuration purposes, so the monitor and system can work together.

Note: If a display device has digital input ports, like DVI or HDMI, but without EDID in its main board, the display device will show no image while the input source is digital signal.

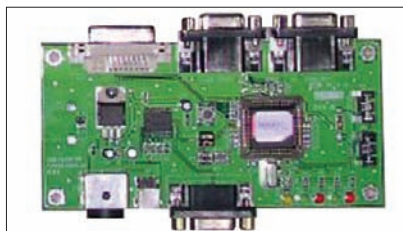
6-2 Equipment Needed

Software

- EDID Program (Generic V0.51)
- EDID File *.ini

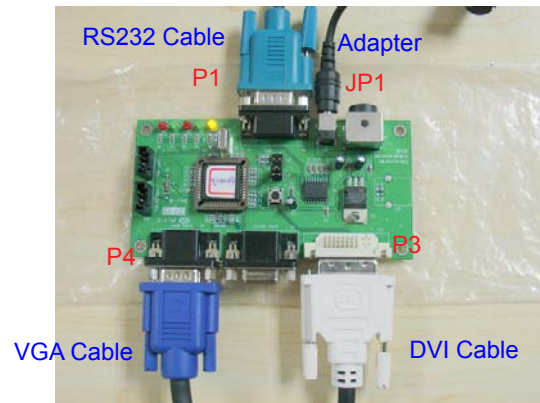
Hardware

- Projector
- Generic Fixture :80.00001.001 for EDID Key-in (Fixture: JP3 must be closed)
- Power cord
- RS-232 Cable (pin to pin, F-M):42.83618G001
- Monitor
- PC
- VGA cable:42.87305G001
- Power adapter for fixture :47.57702G001
- DVI adapter for HDMI :42.82B13G001
- DVI Cable: 42.83N06G001



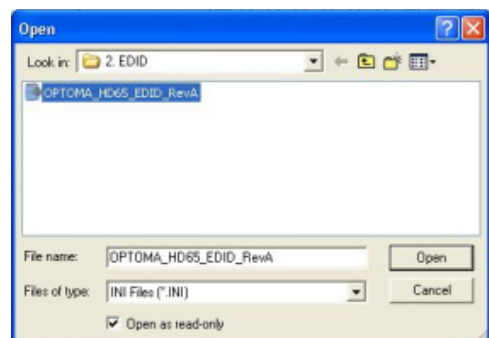
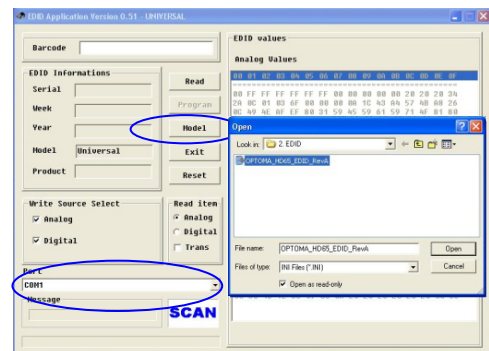
6-3 Setup Procedure

1. Connect all ports
 - Power adapter to fixture JP1
 - Fixture P1 to PC COM1 Port
 - Fixture P4 to Projector analog port
 - Fixture P3 to Projector digital port
 - Power on fixture



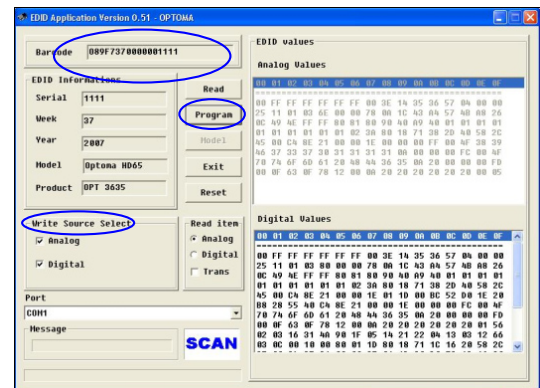
6-4 EDID Key-In Procedure

1. Click on "EDID" to execute EDID program
2. Choose model
 - In the port selection bar, please choose the port that you use. Example: if you use "COM1," choose COM1 in the port selection.
 - Click on "Model."
 - Choose the EDID that responds to the model that you choose.



3. Programming

- Key in the serial number into the barcode blank space.
- In "Write Source Select," make a check in "Analog" and "Digital".
- Click "Program."



4. Change the cable to VGA

- Message box appears on the screen, then click "OK."

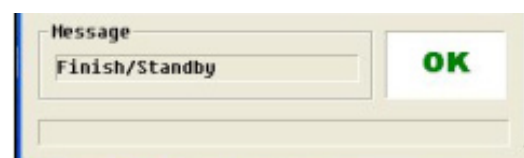


5. Change the cable to HDMI

- Message box appears on the screen, plug DVI Cable to connect to adapter then plug in HDMI port. After finish above action, click "OK."

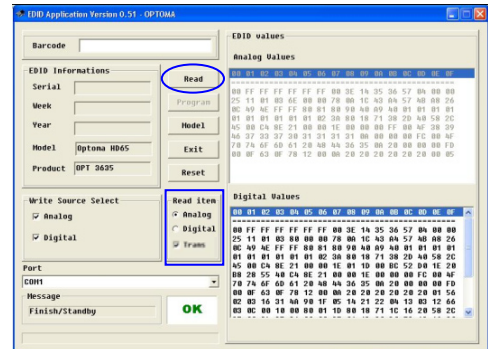


- When the EDID program is completed, a message "OK" will appear on the screen.



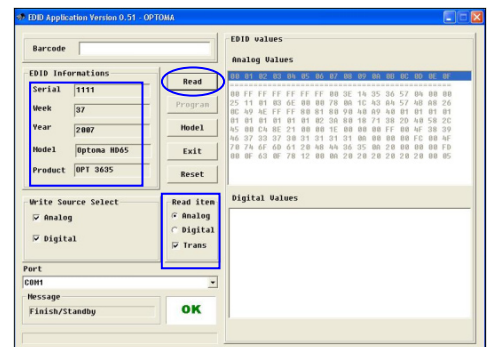
7. Read EDID "Analog" information

- In the Read item, select "Analog" and "Trans", then click the "Read" button.

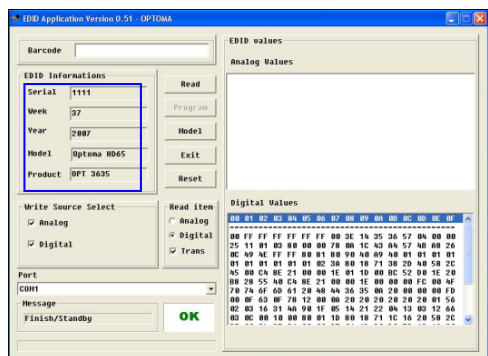


8. Read EDID "Digital" information

- If EDID's information is correct, select "Digital" and "Trans" in the Read item, then click the "Read" button.

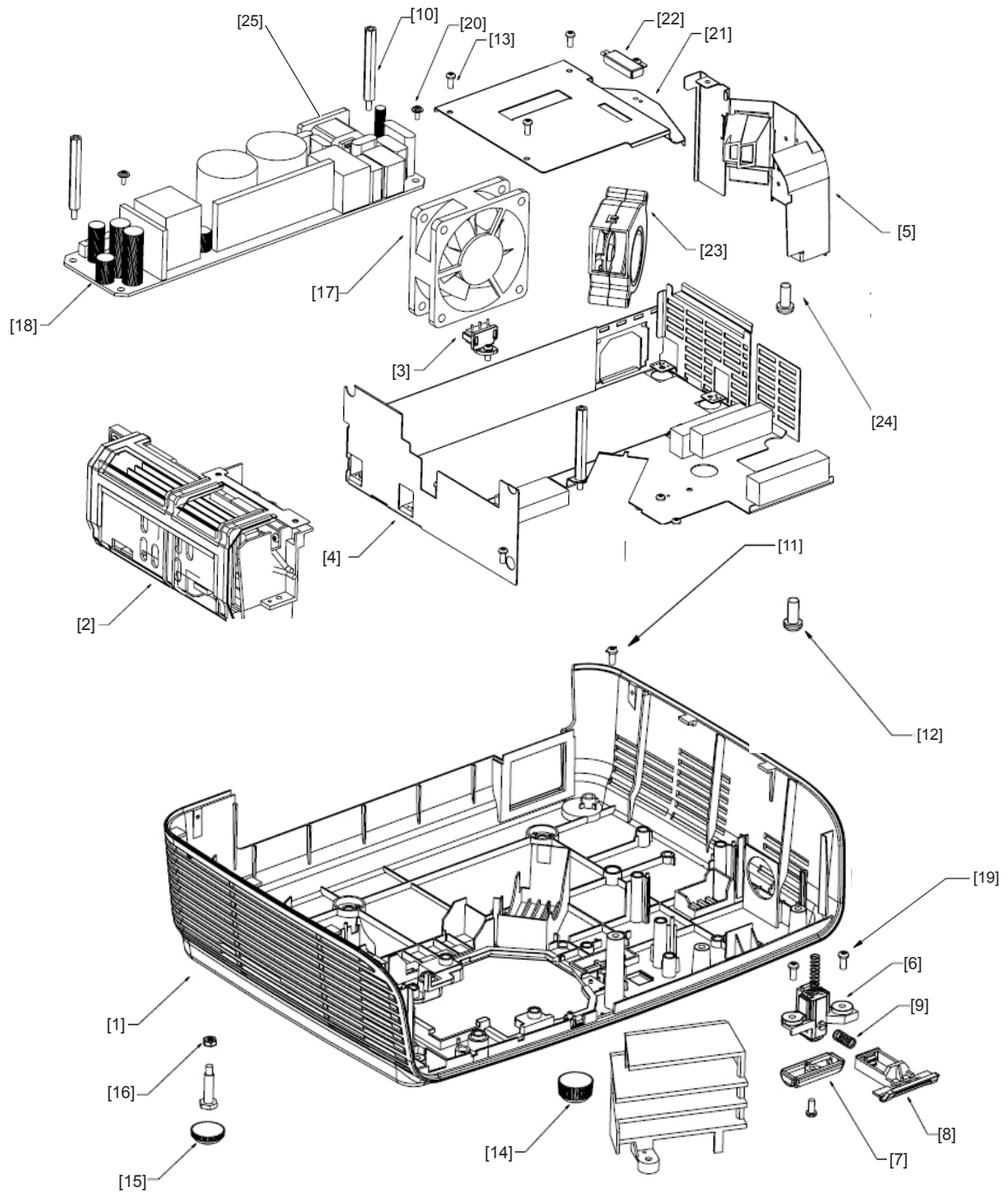


9. EDID informations will show the result.



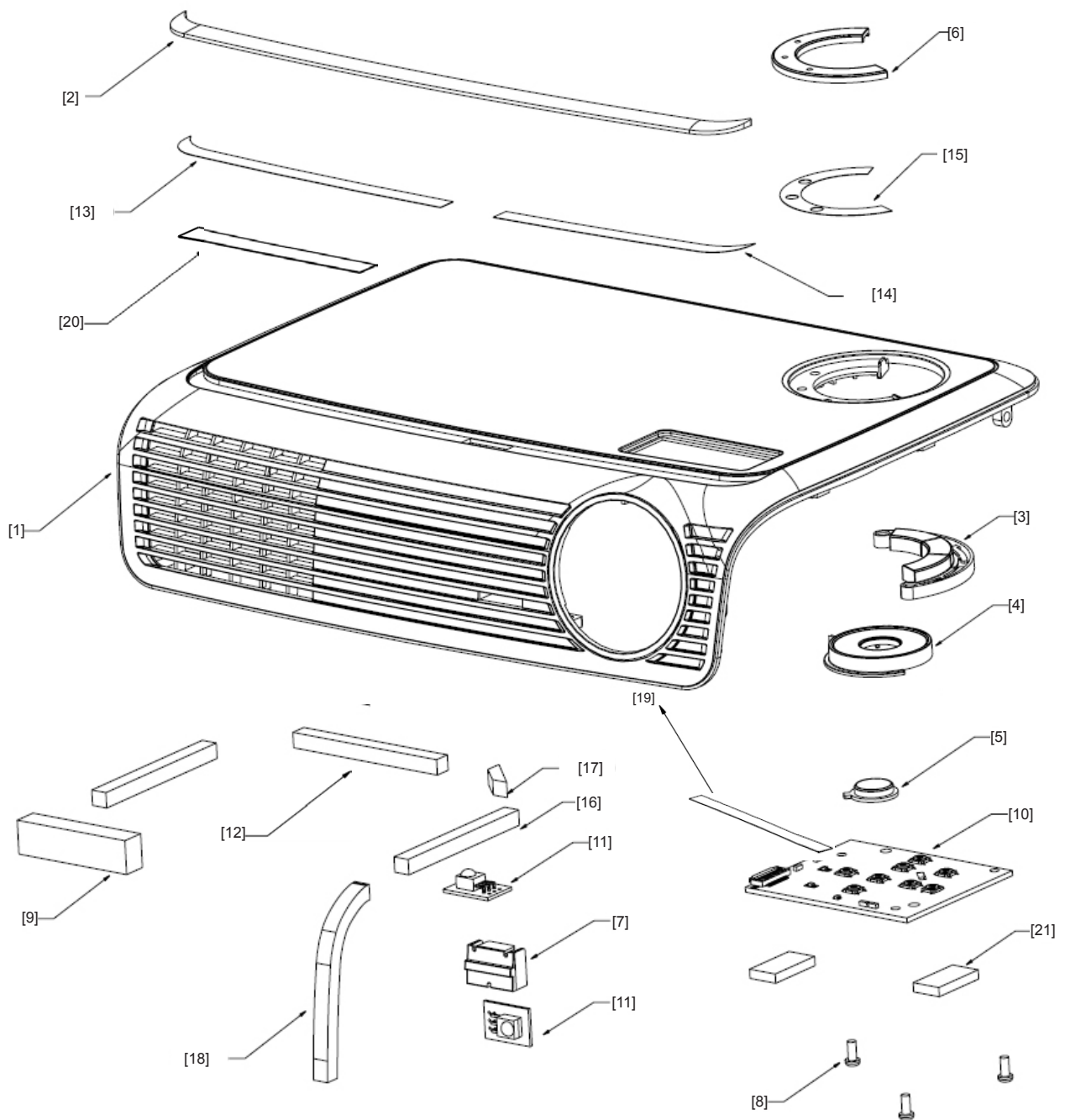
Appendix A

Assy Bottom-case Module HD65



item	P/N	Rev	Description	Parts Supply
1	51.88N07G011	A	BOTTOM CASE PC CM7326A(GRAY) HD65	
2	75.88N01G001	A	ASSY HITACHI LAMPDRIVER 180W	
3	75.88N02G001	A	ASSY INTERLOCK SWITCH MODULE	
4	70.89F13G001	A	ASSY LVPS SHEETMETAL MODULE HD65	NO
5	70.89F14G001	A	ASSY BLOWER MODULE HD65	NO
6	70.89F09G001	A	ASSY ELEVATOR MODULE HD65	NO
7	51.88N22G011	A	ELEVATOR FOOT PC MN3600HC(GRAY)HD65	
8	51.88N21G011	A	LINKER ELEVATOR BUTTON PC MN3600HC(GRAY)HD65	
9	61.82Y22G001	A	ELEVATOR PUSH SPRING SUS304 D=φ4.4 d=φ0.4 L=10 DP715	NO
10	61.88N28G001	A	MAIN BOARD STAND-OFF M2.6X39.7mm	NO
11	85.1C224G051	A	SCREW PAN MECH M4*5 COLOR W/TOOTH WASHER Cr3+	NO
12	61.88N29G001	A	MAIN BOARD STAND-OFF M2.6X4.0mm	NO
13	85.1A526G060	A	SCREW PAN MECH M2.6*6 Ni NYLOK	NO
14	52.88N06G011	A	FIX FOOT RUBBER HD65	
15	52.88N07G011	A	ADJUSTABLE FOOT RUBBER HD65	
16	86.0A123G024	A	HEX NUT M3*0.5P L2.4 Ni	NO
17	49.88N01G001	A	SUNON 60X20 AXIAL FAN	
18	75.87J01G101	A	ASSY LVPS MATRITEK 200W EP752(CHINA'S PROCESS)	
19	52.88N13G001	A	SPONGE FOR BLOWER BOTTOM	NO
20	85.3A126G040	A	SCREW CAP HEAD D7.0 MECH M2.6*4 Ni	NO
21	61.88N20G001	A	SHEET METAL TOP CASE ISOLATION SECC,EP721	NO
22	43.88N01G001	A	THERMAL SWITCH WITH BRACKET (KLIX- ON YS11) 100 DEG. C	
23	49.88N02G002	A	SUNON 45X20 BLOWER	
24	52.88N14G001	A	SPONGE FOR BLOWER TOP	NO
25	41.83Y09G001	A	EMI TAPE W20xL15mm , FF1	NO

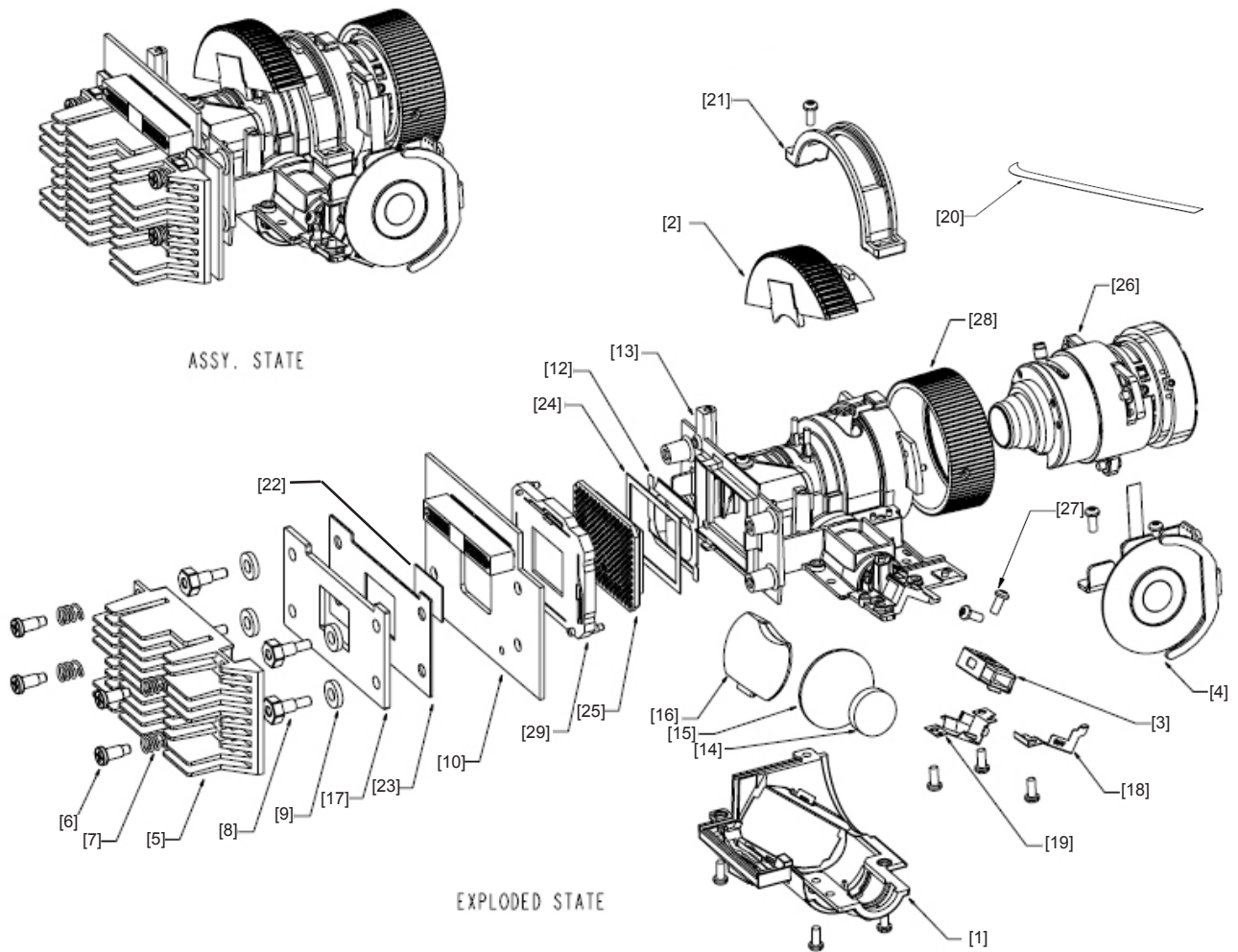
Assy Top-case HD65



EXPLODED.STATE

item	P/N	Rev	Description	Parts Supply
1	51.88N06G011	A	TOP CASE PC CM7326A(GRAY) HD65	
2	51.88N13G001	A	TOP IR LENS PC,EP721	
3	51.88N16G011	A	KEYPAD PC MN3600HC(GRAY)HD65	
4	51.88N17G011	A	4 WAY KEY PC MN3600HC(GRAY)HD65	
5	51.88N18G011	A	ENTER KEY PC MN3600HC(GRAY)HD65	
6	51.88N19G011	A	LED LENS KEYPAD,PC,EP721	
7	51.88N26G001	A	FRONT IR LENS PC,EP721	
8	85.1A526G060	A	SCREW PAN MECH M2.6*6 Ni NYLOK	NO
9	41.85E03G001	A	EMI GASKET W10*L25*H7mm	NO
10	80.89F03G001	B	PCBA KEYPAD BOARD FOR HD65	
11	80.89F04G001	A	PCBA PHOTO SENSOR BOARD FOR HD65	
12	51.88N28G001	A	MYLAY FOR TOP IR LENS PP EP721	NO
13	51.88N30G002	A	ADHESIVE1 FOR TOP IR LENS,EP721	
14	51.88N31G002	A	ADHESIVE2 FOR TOP IR LENS,EP721	
15	51.88N32G001	A	ADHESIVE FOR LED LENS EP721	
16	52.88N15G001	A	SPONGE1 FOR TOP CASE EP721	NO
17	52.88N16G001	A	SPONGE2 FOR TOP CASE EP721	NO
18	52.88N17G001	A	SPONGE3 FOR TOP CASE EP721	NO
19	42.0030EG150	A	FFC 20P P=0.5mm MAIN BOARD TO KEYPAD BOARD 150mm EP721	
20	51.82Y27G001	A	TAPE 3M J1350 45*45mm FOR MIRROR 2 DP715	NO
21	41.82G05G001	A	EMI GASKET W10*L20*H3mm EP719	NO

Assy Optical Engine HD65

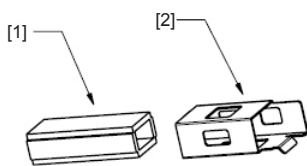


item	P/N	Rev	Description	Parts Supply
	70.89F25GR01	A	ASSY ENGINE MODULE HD65(SERVICE)	
1	70.89F15G001	A	ASSY ENGINE BOTTOM COVER HD65	NO
2	51.88N05G011	A	ZOOM RING PC MN3600HC HD65	
3	70.89F05G001	A	ASSY ROD MODULE HD65	NO
4	70.89F06G001	A	ASSY COLOR WHEEL MODULE HD65	NO
5	61.89F04G001	A	DMD HEATSINK AL HD65	NO
6	61.82B36G001	A	SCREW M3*10 IHSPC	NO
7	61.82B37G001	A	HEAT SINK SPRING	NO
8	61.88611G001	A	DMD SCREW Ivy10X	NO
9	51.00210G001	A	DMD SCREW WASHER A39	NO
10	80.89F02G001	A	PCBA DMD BD FOR HD65	
11	41.82G10G001	A	EMI GASKET W10*L45*H13mm EP719	NO
12	61.80J10G001	E	DMD LIGHT MASK 739 SUS301	NO
13	70.89F04G001	A	PRE ASSY ENGINE BASE HD65	NO
14	23.88N20G001	A	YO CONDENSER1 FOR X15	NO
15	23.88N20G011	A	YO CONDENSER2 FOR X15	NO
16	23.88N06G001	A	YO PLASTIC RELAY FOR X15	NO
17	61.89F01G001	A	DMD PLATE AL A6061 HD65	NO
18	61.89F02G001	A	ROD COVER SUS304 0.25t 1/2H HD65	NO
19	61.88N12G001	A	ROD SPRING SUS301,X15	NO
20	41.81U03G001	A	EMI TAPE W40*L80mm	NO
21	51.88N03G011	A	ZOOM RING HOLDER PC MN3600HC HD65	NO
22	52.87319G001		DMD THERMAL PAD 18*13*0.5t	
23	51.89F02G001	A	DMD INSULATION PC A15	NO
24	52.80J01G001	B	DMD ANTIDUST RUBBER 739 SILICONE RUBBER	NO
25	48.86N01G003	A	DMD 1280x720 PIXEL 0.62" 720P LVDS HORIZONTAL LINE FIX "TI"	
26	23.89L01G001	A	PROJECTION LENS YM09W	NO
27	85.1A121G040	A	SCREW PAN MECH MI,7*4 Ni	NO
28	51.89F03G001	A	FOCUS RING PC MN3600HC HD65	NO
29	11.009F0G007	A	CNNT F 203P FOR 720P LGA DMD SOCKET PE020323-03040-10;FOXCO	

Assy ROD Module HD65



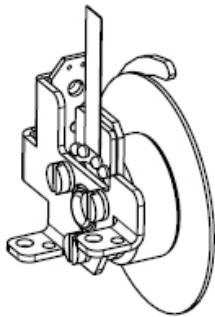
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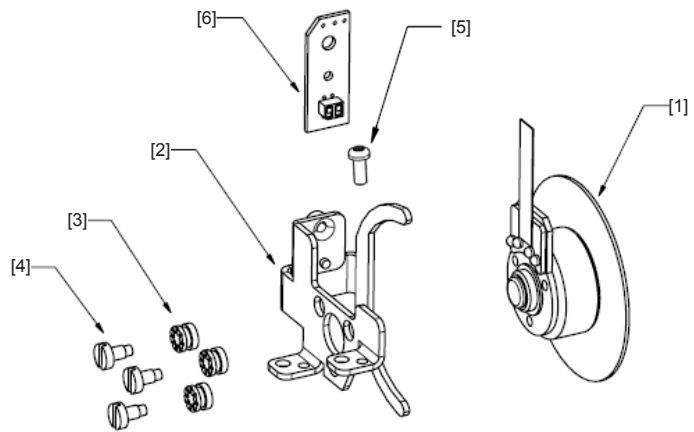
EXPLODED STATE

item	P/N	Rev	Description	Parts Supply
	70.89F05G001	A	ASSY ROD MODULE HD65	
1	23.89F17G001	A	YO STEP ROD FOR A15 720P X15	NO
2	61.89F03G001	A	ROD HOLDER SUS301 0.25t 1/2H HD65	NO

Assy Color Wheel HD65



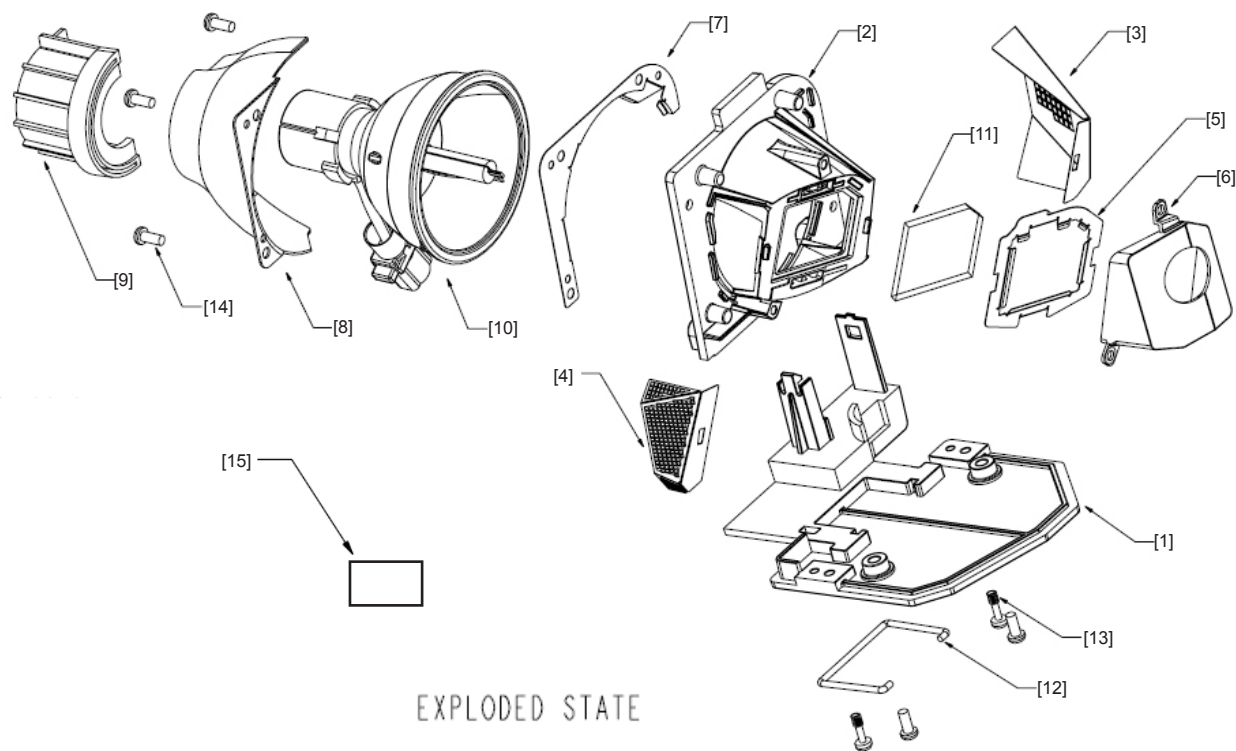
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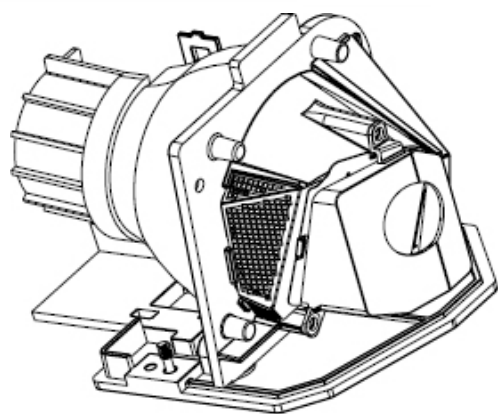
EXPLODED STATE

item	P/N	Rev	Description	Parts Supply
	70.89F24GR01	A	ASSY COLOR WHEEL MODULE HD65(SERVICE)	
1	23.89F19G001	A	YO 6 SEGMENT CW R100C23B72G90M30Y45 FOR HD65	NO
2	61.88N10G001	A	COLOR WHEEL HOLDER SECC,X15	NO
3	52.83615G001	A	COLOR WHEEL DISC RUBBER, EzPro755	NO
4	61.83628G001	A	COLOR WHEEL SHOULDER SCREW,EzPro755	NO
5	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
6	80.89F04G001	A	PCBA PHOTO SENSOR BOARD FOR HD	

Assy Lamp HD65



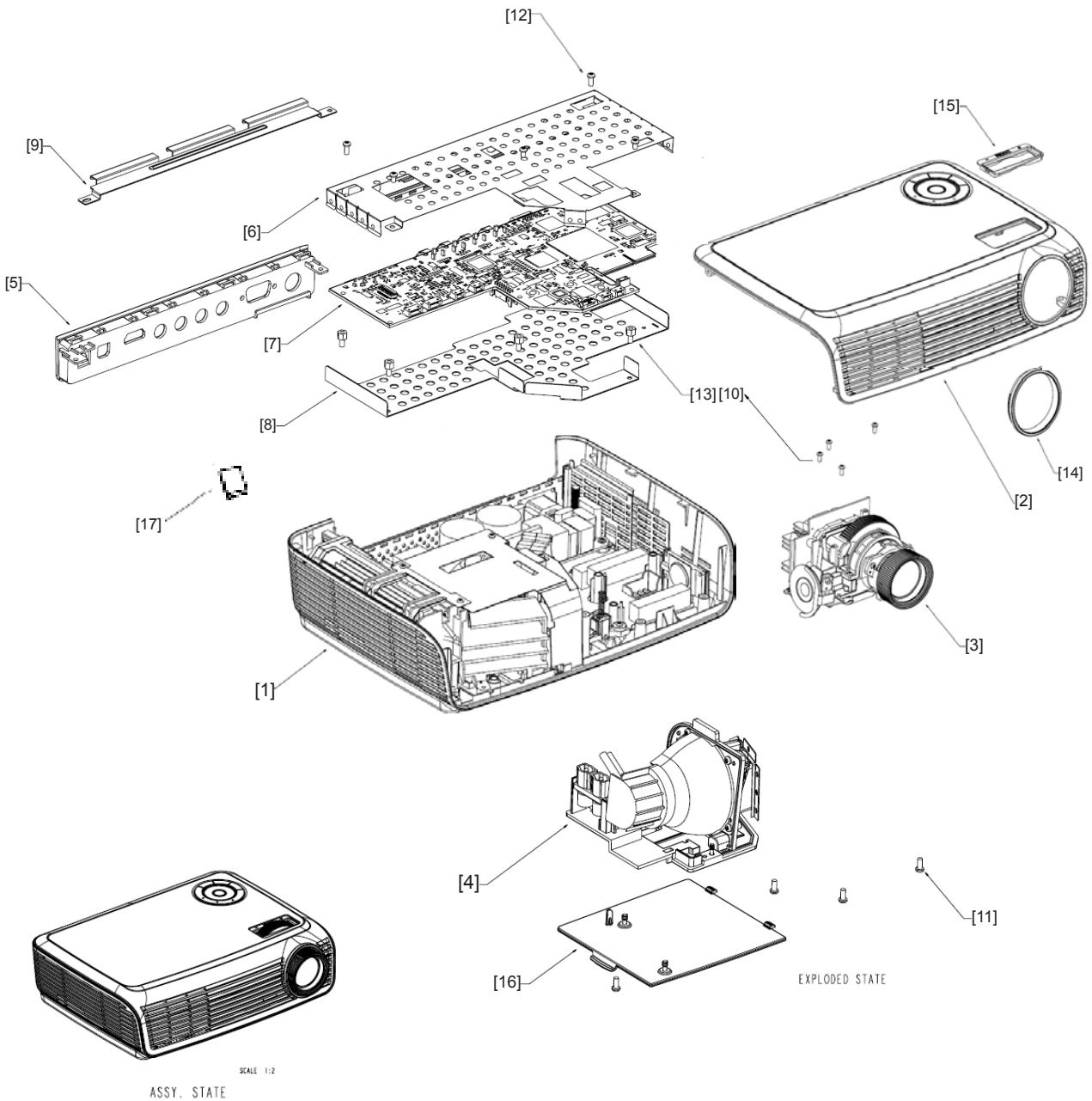
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ASSY. STATE

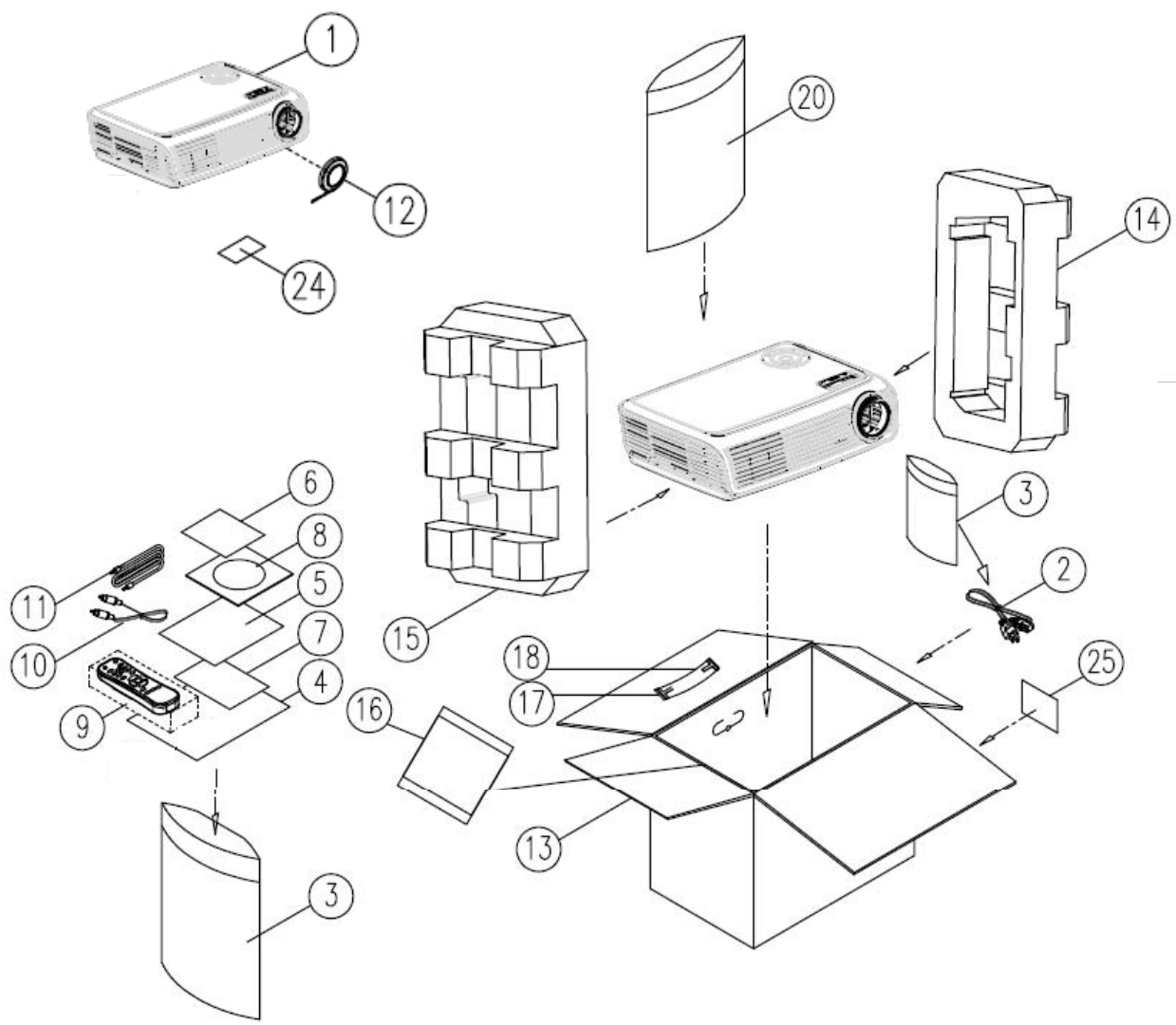
item	P/N	Rev	Description	Parts Supply
1	51.88N02G001	A	LAMP HOUSING PPS,X15	NO
2	61.88N02G001	A	LAMP HOLDER MG,X15	NO
3	61.88N06G001	B	LAMP MESH LEFT SUS301,X15	NO
4	61.88N07G001	A	LAMP MESH,RIGHT,SUS301,X15	NO
5	61.88N09G001	A	UV IR HOLDER SUS301,X15	NO
6	61.88N25G001	A	88N LEAKAGE HOLDER,AL,X15	NO
7	61.88N08G002	A	LAMP FIX SPRING-NEW SUS301 X15	NO
8	61.88N04G001	A	LAMP SHELL,AL5052,X15	NO
9	52.88N08G001	A	88N LAMP SHELL RUBBER,X15	NO
10	23.88K15G001	A	LAMP MODULE PHOENIX 180W FEX88	NO
11	23.87M10G002	A	UV-IR-IR 24*25*2 mm(5*5 mm cut)-YO	NO
12	61.86808G001	A	LAMP CHANGER HANDLE SUS304 1.6d DP725	NO
13	61.85928G001	A	LAMP HOUSING SHOULDER SCREW SB21	NO
14	85.1A526G060	A	SCREW PAN MECH M2.6*6 Ni NYLOKSS	NO
15	35.88N03G002	A	LAMP WARNING LABEL NEW EP721	

D.C. HD65



item	P/N	Rev	Description	Parts Supply
1	70.89F01G001	A	ASSY BOTTOM CASE MODULE HD65	NO
2	70.89F02G001	A	ASSY TOP CASE MODULE HD65	NO
3	70.89F03G001	A	ASSY ENGINE MODULE HD65	NO
4	70.89F16G001	A	ASSY LAMP MODULE HD65	NO
5	51.89F01G001	A	IO COVER PC MN-3600H HD65	
6	61.89F06G001	A	SHEET MEATL IO SUS301 HD65	NO
7	80.89F01G001	A	PCBA MAIN BD FOR HD65	
8	61.89F07G001	A	SHEET METAL BTM M/B SECC HD65	NO
9	61.89F08G001	A	SHEET METAL IO COVER HOLD SECC HD65	NO
10	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
11	85.1A526G060	A	SCREW PAN MECH M2.6*6 Ni NYLOK	NO
12	85.005AGG040	A	SCREW I/O SHEEL #4-40UNC*H4*L5.5 NYLOK	NO
13	85.1A122G040	A	SCREW PAN MECH M2*4 Ni	NO
14	51.88N10G011	A	FOCUS RING COVER PC MN3600HC (GARY) HD65	
15	51.88N12G011	A	ZOOM RING COVER PC MN3600HC(GARY) HD65	
16	70.89F10G001	A	ASSY LAMP COVER MODULE HD65	NO
17	35.89F01G001	A	I/O COVER LABEL HD65	

D.P. HD65



item	P/N	Rev	Description	Parts Supply
1	DC.89F01G001	A	D.C. HD65	NO
2	42.50115G001	A	CABLE POWER CORD 1.8M SP30+IS14 US	
3	51.86213G002	A	PE BAG ZIPPER #9 W/RECYCLING MARK FOR OPTOMA	
4	36.00020G001	A	QUICK TROUBLESHOOTING GUIDE MULTILINGUAL	
5	36.00018G001	B	EXTENDED WARRANTY REGISTRATION FORM,USA FOR LPP SERIES	
6	36.80A01G001	A	SAFETY & WARRANTY GUIDE , MULTILINGUAL H30 GREEN	
7	36.89F03G001	B	QUICK START CARD MULTILINGUAL OPTOMA HD65	
8	36.89F01G001	A	USER'S MANUAL FOR USA/ASIA, OPTOMA HD65	
9	45.89F01G001	A	INFRARED REMOTE CONTROLLER HD65 (Parex)	
10	42.80708G002	A	CABLE RCA PLUG #27 2M 2M PD726/PH730	
11	42.87205G201	A	CABLE COMPOSITE VIDEO 1.8M EP729;SUZHOU	
12	75.89F02G001	A	ASSY LENS CAP MODULE HD65	
13	55.89F01G001	A	CARTON AB OPTOMA LOGO HD65	
14	56.89F01G001	A	CUSHION-L EPE HD65	
15	56.89F02G001	A	CUSHION-R EPE HD65	
16	55.89F03G001	A	PAPER SUPPORT BOX HD65	
17	51.00200G001	A	HANDLE BAR 2. PE HD70	
18	51.00201G001	A	HANDLE BAR 1.PE HD70	
20	51.52109G003	A	PE BAG 450*350*0.07 FOR OPTOMA	
24	35.88N02G001	A	SPEC LABEL EP721	
25	35.52302G091	A	LABEL CARTON 108*92 BLANK	

Appendix B

I. Serial Number System Definition

Serial Number Format for Projector (For HD65)

<u>Q</u>	<u>89F</u>	<u>7</u>	<u>33</u>	<u>AAAAA</u>	<u>C</u>	<u>0001</u>
①	②	③	④	⑤	⑥	⑦

- ① : Q = Optoma
- ② : 89F = Project code
- ③ : 7 = Last number of the year (ex:2007 = 7)
- ④ : 33 = week of the year (ex:the thirty-three week of the year = 33)
- ⑤ : AAAAA = not-defined
- ⑥ : C = Manufacture factory (TW or CPC)
- ⑦ : 0001 = Serial code

EX: Q89F733AAAAAC0001

This label represents the serial number for HD65. It is produced for USA at CPC on Thirty-three week of 2007. Its serial code is 0001.

Serial Number Format for Projector (For HD700X)

Q **89F** **7** **48** **AAASS** **C** **0001**

① ② ③ ④ ⑤ ⑥ ⑦

- ① : Q = Optoma
- ② : 89F = Project code
- ③ : 7 = Last number of the year (ex:2007 = 7)
- ④ : 48 = week of the year (ex:the forty-eight week of the year = 48)
- ⑤ : AAASS = not-defined .SS=HD700X
- ⑥ : C = Manufacture factory (TW or CPC)
- ⑦ : 0001 = Serial code

EX: Q89F748AAASSC0001

This label represents the serial number for HD700X. It is produced for USA at CPC on Forty-eight week of 2007. Its serial code is 0001.

Serial Number Format for Projector (For GT-7000)

Q **89F** **8** **20** **AAASS** **C** **0001**

① ② ③ ④ ⑤ ⑥ ⑦

- ① : Q = Optoma
- ② : 89F = Project code
- ③ : 8 = Last number of the year (ex:2008 = 8)
- ④ : 20 = week of the year (ex:the Twenty week of the year = 20)
- ⑤ : AAASS = not-defined .SS=GT-7000
- ⑥ : C = Manufacture factory (TW or CPC)
- ⑦ : 0001 = Serial code

EX: Q89F820AAASSC0001

This label represents the serial number for GT-7000. It is produced for USA at CPC on Twenty week of 2008. Its serial code is 0001.

II. PCBA Code Definition

PCBA Code for Projector

A B XXXXXXXXXX C XXX EEEE

① ② ③ ④ ⑤ ⑥

- ① : ID
- ② : Vendor Code
- ③ : P/N
- ④ : Revision
- ⑤ : Date Code
- ⑥ : S/N